ENVIRONMENT

MASTER PLAN

(2020-2030)

For The

Republic of Mauritius

Ministry of Environment, Solid Waste Management and Climate Change

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ACKNOWLEDGEMENT

The Ministry of Environment, Solid Waste Management and Climate Change would like to express its appreciation to all Ministries and Departments, the Commission for Environment, Forestry, Tourism, Marine Parks and Fisheries of Rodrigues, public and private sector organisations, Non-Governmental Organisations (NGOs), the academia, the civil society and the United Nations Development Programme (UNDP) Country Office, which have contributed to the preparation of this Master Plan.

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FOREWORD

The environment does not exist as a sphere separate from human actions, ambitions and needs. As scientists persistently bring to our attention urgent but complex problems bearing on our very survival like global warming, threats to Earth's ozone layer and depletion of natural resources, we acknowledge that the transition towards environmentally sustainable, low-emissions and climate-resilient development pathways is a critical component of a country's ability to achieve the 2030 Agenda for Sustainable Development. This Environment Master Plan (2020-2030) for the Republic of Mauritius is the outcome of participatory and extensive consultations with key stakeholders held over two years from December 2019 to December 2021 thanks to financial support extended to my Ministry by the United Nations Development Programme (UNDP) Country Office.

The recommendations and action plans in the Master Plan prompt us towards new approaches to reconcile our objectives for a high income, inclusive and green society with environmental concerns as they guide us on how to forge ahead together by adapting, at individual, collective and political levels, our lifestyle, economic development, institutions and legislation to the fast-changing global realities and to the socio-economic and environmental conditions of the Republic of Mauritius. Amidst constraints exacerbated by the COVID-19 pandemic, we have no time to spare. The call of the hour is that together, we should span the globe, and pull our efforts to formulate an interdisciplinary, integrated and pro-environmental approach to global concerns as we are impelled to admit that the decisions we take today will define the kind of environment we will leave for the future generations.

This Master Plan has been developed in two parts, Part 1 being for mainland Mauritius and Part 2 being for Rodrigues Island, and constitutes an expedient tool for policymakers to establish the foundations for our country's *"transition écologique"* on our 'journey' towards sustainability as we grapple with our common concern for the planet.

We can no longer indeed consider environmental protection as being peripheral to economic progress or corporate performance. I, therefore, urge each and every one to consider the pay backs and to set environmental sustainability as a strategic priority**,** and to implement the recommendations and proposed plan of actions set against eight key thematic areas in the Master Plan.

I also take the opportunity to sincerely thank all those who have contributed to the realisation of the document.

Honourable K. Ramano

Minister of Environment, Solid Waste Management and Climate Change

LIST OF ABBREVIATIONS

AFD	Agence Française de Développement
AFRC	Albion Fisheries Research Centre
AGO	Attorney General's Office
AHRIM	Association of Hoteliers and Restaurants in Mauritius
AMM	Association of Mauritian Manufacturers
BA	Beach Authority
BCA	Building and Construction Authority
BM	Business Mauritius
BP	Best Practices
CAB	Citizens Advice Bureau
CADRI	Capacity for Disaster Reduction Initiative
CBD	Convention on Biological Diversity
CCUS	Carbon dioxide Capture, Utilization and Storage
CEB	Central Electricity Board
CEN	Conservative Environment Network
CfA	Commission for Agriculture
CfE	Commission for Environment
CO2	Carbon dioxide
COP	Conference of Parties
CSCM	Civil Service College Mauritius
CSMZAE	Continental Shelf, Maritime Zones Administration and Exploration
CSOs	Civil Society Organisations
CSR	Corporate Social Responsibility
DIFTAR	Differentiated Tariff
EDB	Economic Development Board
EDP	Effluent Discharge Permit
EEMO	Energy Efficiency Management Office
EIA	Environmental Impact Assessment
ELUAT	Environment and Land Use Appeal Tribunal
EPA	Environment Protection Act
EPI	Environmental Performance Index
EPR	Extended Producer Responsibility
ESA	Environmentally Sensitive Area
ETF	Enhanced Transparency Framework
EU	European Union
EVs	Electric Vehicles
FADs	Fish Aggregating Devices
FAO	Food and Agriculture Organisation
FAREI	Food and Agricultural Research and Extension Institute
FFEM	Fonds Français pour l'Environnement Mondial
FS	Forestry Service
GCF	Green Climate Fund
GEF	Global Environment Facility
GFEI	Global Fuel Economy Initiative
GHG	Greenhouse Gas
GIS	Geographical Information System

HDI	Human Development Index
HEC	Higher Education Commission
HWM	High-Water Mark
ICZM	Integrated Coastal Zone Management
IIAG	Ibrahim Index of African Governance
IOM	International Organisation for Migration
IORA	Indian Ocean Rim Association
ISO	International Standards Office
IUCN	International Union for Conservation of Nature
IWA	Industrial Waste Audit
JICA	Japan International Corporation Agency
LAs	Local Authorities
LDA	Land Drainage Authority
LEU	Living Environment Unit
LGA	Local Government Act
MBEMRFS	Ministry of Blue Economy, Marine Resources, Fisheries and Shipping
MCCI	Mauritius Chamber of Commerce and Industry
MCIA	Mauritius Cane Industry Authority
MCS	Monitoring Control and Surveillance
MEAs	Multilateral Environmental Agreements
MEPU	Ministry of Energy and Public Utilities
MESWMCC	Ministry of Environment, Solid Waste Management and Climate Change
METEST	Ministry of Education, Tertiary Education, Science and Technology
MEXA	Mauritius Export Association
MFSGG	Ministry of Financial Services and Good Governance
MHLUP	Ministry of Housing and Land Use Planning
MIDSMEC	Ministry of Industrial Development, SMEs and Cooperatives
MIE	Mauritius Institute of Education
MITCI	Ministry of Information Technology, Communication and Innovation
MITD	Mauritius Institute of Training and Development
MLHRDT	Ministry of Labour, Human Resource Development and Training
MLTLR	Ministry of Land Transport and Light Rail
MNICD	Ministry of National Infrastructure and Community Development
MoAIFS	Ministry of Agro Industry and Food Security
MoFARIIT	Ministry of Foreign Affairs, Regional Integration and International Trade
MoFEPD	Ministry of Finance, Economic Planning and Development
MOI	Mauritius Oceanography Institute
MoT	Ministry of Tourism
MoU	Memorandum of Understanding
MP	Master Plan
MPAs	Marine Protected Areas
MPSAIR	Ministry of Public Service, Administrative and Institutional Reforms
MRA	Mauritius Revenue Authority
MRIC	Mauritius Research and Innovation Council

MRT	Mass Rapid Transit
MSB	Mauritius Standards Bureau
NCAI	Natural Capital Asset Index
NCG	National Coast Guard
NCP	National Cycling Plan
NDC	Nationally Determined Contributions
NDRRM	National Disaster Risk Reduction Management
NDRRMC	National Disaster Risk Reduction and Management Centre
NDU	National Development Unit
NEA	National Ecosystem Assessment
NEC	National Environment Commission
NECCF	National Environment and Climate Change Fund
NEF	National Environment Fund
NEL	National Environmental Laboratory
NEP	National Environment Policy
NGOs	Non-Governmental Organisations
NHRC	National Human Rights Commission
NLTA	National Land Transport Authority
NNSD	National Network for Sustainable Development
NORAD	Norwegian Agency for Development Cooperation
NOSCP	National Oil Spill Contingency Plan
NPCC	National Productivity and Competitiveness Council
NPCS	National Parks and Conservation Service
NYEC	National Youth Environment Council
OECD	Organisation for Economic Co-operation and Development
PdL	*Police de L'Environnement*
PDS	Property Development Scheme
PET	Polyethylene Terephthalate
PF	Police Force
PMO	Prime Minister's Office
PPPs	Public Private Partnerships
RG	Registrar General
ROM	Republic of Mauritius
RRA	Rodrigues Regional Assembly
RVAA	Regional Vulnerability Assessment and Analysis
SADC	Southern African Development Community
SD	Sustainable Development
SDGs	Sustainable Development Goals
SEA	Strategic Environmental Assessment
SIDS	Small Island Developing States
SM	Statistics Mauritius
SMEs	Small and Medium Enterprises
SNH	Scottish Natural Heritage
SSCOP	Self-Safe Community Operational Action Plan
SUNREF	Sustainable Use of Natural Resources and Energy Finance
SWMD	Solid Waste Management Division
SYAH	SIDS Youth Aims Hub
TA	Tourism Authority
TAC	Technical Advisory Committee
UK	United Kingdom

UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UoM	University of Mauritius
WB	World Bank
WCP	Walking and Cycling Plan
WMA	Wastewater Management Authority
WtE	Waste to Energy
WTO	World Trade Organization
ZPCC	Zambian Parliamentary Conservation Caucus

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EXECUTIVE SUMMARY

The Environment Master Plan (2020-2030) for the Republic of Mauritius basically establishes the foundation to support the country's transition to a green and clean society. It constitutes a blueprint to guide policymakers and the civil society in adopting a sustainable pathway for the next decade and aims to adapt our lifestyle, institutions, legislation and economic development to the fast-changing global realities and specific socio-economic and environmental conditions of Mauritius and Rodrigues.

The document has been developed thanks to financial support extended by the United Nations Development Programme (UNDP) Country Office and the coordinated and collaborative efforts of key stakeholders encompassing relevant public bodies, private sector organisations, academia, Non-Governmental Organisations (NGOs) including the Commission for Environment, Forestry, Tourism, Marine Parks and Fisheries of Rodrigues and the civil society at large. The consultative process was kick started way back in December 2019 during the *"Assises de l'Environnement"* and was pursued during the national consultative workshop held virtually, in December 2021 and wound up early in the year 2022.

To ensure an inclusive process and ascertain that the socio-economic and environmental context of Rodrigues is comprehensively and duly reflected in the development pathway, consultations were also held in Rodrigues for the development of the Rodrigues Master Plan. The Plan for Rodrigues accordingly reflects the outcome of coordinated and concerted efforts of stakeholders, including the Ministry of Environment, Solid Waste Management and Climate Change (MESWMCC), the Rodrigues, Outer Islands and Territorial Integrity Division of the Prime Minister's Office, the Rodrigues Regional Assembly and other public bodies, as well as private sector organisations and the civil society, with the financial support of the UNDP Country Office.

Part I of the Master Plan thus relates to mainland Mauritius while Part II specifically relates to Rodrigues. A distinct 5-year Action Plan has been proposed for Mauritius and for Rodrigues, with a total of **114** policy recommendations having been formulated in the Environment Master Plan for the Republic of Mauritius. Based on an analysis which encompasses a review of a wide range of policies and measures of Small Island Developing States (SIDS) and international best practices, the Master Plan is basically structured on three levels, as hereunder: -

(i) **Overarching** policies and strategies that address systemic issues resulting from wide-ranging socio-economic root causes such as consumption, production and development models that are beyond nature's capacity;
(ii) **Thematic** policies and strategies that address extensive Mauritian environmental issues; and
(iii) **Specific** policies and strategies that are material to Mauritius and that need operational solutions such as changes to the environment legislation and/ or to the roles and responsibilities of the MESWMCC.

Broadly, the document takes in 34 overarching policies and 45 thematic policies for Mauritius and 35 thematic policies for Rodrigues.

1.0 CONTEXT

ADAPTED TO THE CURRENT AND FORESEEABLE ENVIRONMENTAL CONDITIONS

The interactions of multiple factors influencing the environment present a number of challenges towards its effective management. Some of those challenges have permeated through time as systemic barriers, while others have emerged contemporarily. Scientific observations and analyses point to several root causes, namely, rapid change in land-use as a result of an increase in built-up areas, gradual loss of Environmentally Sensitive Areas (ESAs) and their ecosystem services, reduction in the green cover, abusive use of plastics, increase in solid waste generation, coastal degradation, littering and dumping, water accumulation during flash floods, siltation and limited maintenance of watercourses, as well as unsustainable consumption and production patterns. Moreover, environmental pollution issues are exacerbated by the loss of the eco-systemic capacity to buffer the negative impacts of flooding, water pollution, coastal degradation and air pollution.

Barriers/lacuna hindering proper environmental management in Mauritius that require urgent consideration, are wide-ranging and include the following: -

- legal and institutional frameworks;
- strategic planning;
- concerted actions among institutions;
- penalties and the harmonisation of offences;
- enforcement and monitoring;
- scientific, technological and innovative capabilities;
- applied research and development;
- databases for proper environmental planning; and
- engagement between institutions and the public.

Considering the above context and in view that the formulation of the National Environment Policy (NEP) in 2007 and the review of the National Environmental Strategies (NES) in 2008 were conducted more than a decade ago, there was a dire need for significant changes in our environmental policies, strategies and actions to address systemic barriers characterising the environment sector as well as environmental issues that have emerged since the formulation of those guiding planning documents. This transition was also required to honour our commitments at the national level as well as our international obligations under Multilateral Environmental Agreements (MEAs), targets of the Sustainable Development Goals (SDGs) and the Nationally Determined Contributions (NDCs) under the Paris Agreement.

2.0 ACHIEVING THE VISION

"An inclusive, high income and green society forging ahead together[1]"

SUPPORTED BY A COMPREHENSIVE APPROACH THAT ADDRESSES PRIORITY ISSUES AND EMBRACES INNOVATIVE APPROACHES

The roadmap to develop the Master Plan has involved wide consultations through the *"Assises de l'Environnement"* in December 2019 and a two-day national consultative workshop in December 2020, which culminated into a technical workshop, held virtually, in December 2021.

The environment sector being very vast, there was a need to prioritise environmental issues for drafting the Master Plan, following analyses conducted thus far and progress achieved in various areas. Following extensive and inclusive national consultations and a review of best practices at national, regional and international levels, **eleven (11) Overarching Issues** which have the potential to significantly improve the management of environmental resources and address systemic issues, were formulated.

Eight (8) Thematic Areas were also identified as challenges to be resolved in the formulation of the Master Plan, as hereunder: -

(i) la culture environnementale ;
(ii) urbanisme et politique environnementale;
(iii) le changement climatique;
(iv) zones côtières et environnement marin;
(v) biodiversité et ressources naturelles;
(vi) lutte contre la pollution;
(vii) la gestion des déchets; and
(viii) contrôle des déchets plastiques.

For each Thematic Area, a 10-year Policy and Strategy as well as a 5-year Action Plan have been formulated describing the long-term objectives as well as policy orientations and recommendations.

Moreover, through the thematic discussions, **nine (9) complementary Specific Issues** requiring targeted analysis and review, for the formulation of operational policy and institutional and legal recommendations, were identified. In many instances, these specific issues are cross-cutting and support the following overarching areas: -

(i) Sustainable Development;
(ii) Strategic Environmental Assessment (SEA);

[1] Government Programme 2020-2024: Towards an inclusive, high income and green Mauritius forging ahead together. Address by the President of the Republic of Mauritius. https://www.storageplus.io/public/show-document-detail/codevigor/Government-mauritius/Government-programme-20202024-towards-an-inclusive-high-income-and-green-mauritius-forging-ahead-together/document/details/public-document.

(iii) Observatoire de l'environnement;
(iv) Circular Economy and Waste Management;
(v) Plastic management ;
(vi) Environmentally Sensitive Areas (ESAs);
(vii) Oil Spills and Environmental Emergencies;
(viii) Enforcement Strengthening and Compliance Mechanisms; and
(ix) National Environmental Laboratory.

3.0 POLICIES AND STRATEGIES FOR MAURITIUS

3.1 Overarching Issues to Address Systemic Barriers

DELIVERED WITH STRATEGIES THAT ADDRESS SYSTEMIC BARRIERS HINDERING PROGRESS

Unless systemic barriers are eliminated, specific policies will remain ineffective and will not achieve the desired *"transition écologique"* for the Republic of Mauritius. These barriers are often the root-causes of current environmental issues and need to be addressed through the following eleven (11) overarching proposals.

SN	OVERARCHING ISSUES
1.	**Amending the Environment Protection Act (EPA) and the Climate Change Act**, as appropriate, taking into consideration, *inter alia*, human rights - including the needs of persons with disabilities[2] - cultural heritage and gender issues.
2.	**Adopting an inclusive dialogue and approach to environmental protection** to conceptualise environmental planning over the long-term.
3.	**Reviewing the development model for Mauritius** to enable a sustainable transition with the promotion of circular economy, Natural Capital Accounting within national accounts and a long-term strategy to achieve carbon neutrality by 2070, and ultimately establish an independent SEA/ Environmental Impact Assessment (EIA) Division.
4.	**Strengthening Development Control Mechanisms** in Mauritius while incorporating a SEA framework and a legal protection system for ESAs, including provision for Government to acquire such areas on private lands and to integrate ESAs in National Development Strategies, land-use planning process and documents such as the Outline Planning Schemes.
5.	**Strengthening the Legal and Institutional Framework for Environmental Protection** by reviewing, strengthening and harmonising the EPA and other environmental laws; setting up

[2] As provided under Article 9 of the United Nations Convention on the Rights of Persons with Disabilities.

SN	OVERARCHING ISSUES
	a Sustainable Development Framework and revamping the National Environment Commission (NEC) into a National Environment and Sustainable Development Commission; establishing a Council for Environmental Experts and Practitioners to ensure, *inter alia*, continuous capacity-building and guide development across economic, social and environmental dimensions; setting up an Environment Expert Group (Think Tank) comprising independent experts and practitioners under the MESWMCC to advise on specific issues.
6.	**Reinvigorating Environmental Stewardship at all Levels** to implement a mandatory environmental charter for all public and private bodies that would define their engagement for the implementation of environmental measures, the lowering of their carbon footprint and the establishment of a reporting mechanism; and to empower stakeholders in protecting the environment through measures such as: - (a) establishment of a forum for NGOs and Civil Society Organisations (CSOs) on environmental programmes with the support of the private sector; (b) promoting a mechanism for community watch; (c) implementing an Environmental Whistle Blower Programme; (d) adding new themes to the current scope of Corporate Social Responsibility (CSR) funding; (e) creating Environment Clubs at Village Council level, which would be responsible to spearhead village greening activities and monitor cleaning programmes; (f) setting up of Environment Volunteers' Programme; (g) encouraging the creation of backyard/ kitchen gardens; (h) promoting the greening of spaces in public and private institutions; and (i) allocating/ acquiring lands to create community gardens, green areas and health tracks in communities lacking them.
7.	**Boosting Resource Mobilisation for Environmental Protection** through innovative economic instruments and providing targeted fiscal incentives for environmental protection; restyling of the "Corporate Social Responsibility" funding as the "Corporate Social and Environmental Responsibility"; providing incentives and/ or economic instruments for the greening of the transport sector; introducing new fiscal measures such as private sector sponsorship to encourage communities to participate in activities related to the regular maintenance of public places and ecosystem services as well as the adoption of ESAs across the island; establishing a donor's coordination mechanism under the MESWMCC for a sustainable approach regarding environmental protection and conservation; tasking the MEAs Committee (established under the EPA) to explore all potential windows for optimal resource mobilisation from international funding institutions, donors, bilateral cooperation agreements, and regional organisations to meet the requirements of global MEAs such as the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the Stockholm Convention on Persistent Organic Pollutants.

SN	OVERARCHING ISSUES
8.	**Improving Transparency and Communication with Stakeholders** by setting up an *"Observatoire de l'Environnement"* under the *aegis* of the MESWMCC to monitor and disseminate information on Environmental Performance Index (EPI)/ health of environmental media, and to share best practices.
9.	**Enhancing Applied Research and Innovation on Environmental Issues** by setting up a Science-to-Policy platform comprising relevant bodies, including the academia, under the MESWMCC to serve as an advisory body for improved environmental governance, evidence-based decision-making and adaptive management.
10.	**Upscaling Policies and Measures in Key Sectors Impacting the Environment** to alleviate the environmental impacts associated with wastewater; assuage environmental pollution and promote food safety by up-scaling sustainable agricultural practices for both crop and livestock sectors; enhance environmentally sustainable practices in the tourism sector and promote new and green products to support responsible tourism; and mitigate the impacts of pesticides on the environment.
11.	**Mainstreaming Gender** to enhance capacities for gender mainstreaming and women's empowerment in the environment sector; support and strengthen gender-responsive policy research and foster availability of disaggregated data; enhance and sustain gender responsiveness in the environment sector; establish a monitoring and evaluation system that supports gender mainstreaming in the environment sector; and promote partnership and knowledge management on gender mainstreaming on environmental issues.

3.2 Thematic Areas

IMPLEMENTED BY A PLAN THAT ADDRESSES MAURITIAN ENVIRONMENTAL ISSUES

A series of policy orientations to tackle the eight (8) Thematic Areas relating to environmental issues in Mauritius was proposed in the course of public consultations during the *"Assises de l'Environnement"*, as follows.

SN	THEMATIC AREA OBJECTIVES
1.	***La culture environnementale:*** to ensure that a vibrant and thriving environmental culture is established and nurtured in Mauritius, where environmental values are deeply enshrined and eco-friendly attitudes, behaviours and actions are adopted to achieve the SDGs.
2.	***Urbanisme et politique environnementale:*** to further promote a clean and green environment with effective ecosystem services to sustain human wellbeing, livelihoods and resilient societies.

SN	THEMATIC AREA OBJECTIVES
3.	***Le changement climatique:*** to make Mauritius a climate-resilient country in line with SDG 13 and Agenda 2063 and achieve a low-emission economy, while aiming at carbon neutrality by 2070.
4.	***Zones côtières et environnement marin:*** to make coastal zones resilient to natural hazards, climate change and anthropogenic impacts while striking the right balance between our coastal ecosystems and development, protecting the right of the public to enjoy their natural heritage and also preserving marine resources and biodiversity so as to allow the sustainability of livelihoods.
5.	***Biodiversité et ressources naturelles:*** to ensure effective conservation, sustainable use and restoration of native biodiversity and its ecosystems in line with national and international commitments while also increasing resilience and adaptation with a view to benefitting from healthy, well-functioning and resilient ecosystems that provide economic, social and environmental advantages; to build a society in which all stakeholders including the general public, public authorities, the private sector and NGOs take on board the valuation of ecosystem services and functions and are active in biodiversity conservation, and whereby all institutions are empowered to mainstream biodiversity into decision-making, including through natural capital accounting and in line with the SDGs.
6.	***Lutte contre la pollution:*** to have a healthy environment for the wellbeing of a society where undertakings are compliant with environmental standards, and the public adopts best environmental practices and cleaner approaches, and are accountable for their actions towards a cleaner, greener and safer Mauritius.
7.	***La gestion des déchets:*** to reduce the quantity of solid wastes requiring disposal and increasing the lifespan of the Mare Chicose landfill; and to shift towards a circular economy with enhanced resource recovery and recycling that would reduce the pressure on the landfill.
8.	***Contrôle des déchets plastiques:*** to identify other problematic single-use plastics that could be banned by 2030 and reduce the amount of plastic waste entering the environment; to ensure circularity; and to adopt sustainable consumption and production practices.

3.3 Specific Issues and their Institutional and Legal Frameworks

SUPPORTED BY ADAPTATIONS TO THE INSTITUTIONAL AND LEGAL FRAMEWORK

Proposals were received during the "*Assises de l'Environnement*" to further analyse several specific Mauritian environmental issues that were deemed to be complementary to the Overarching Issues and the Thematic Areas, Policies and Strategies. These are material to Mauritius and need operational solutions such as changes to the environment legislation, a reengineering of the institutional framework, and the roles and responsibilities of the MESWMCC. The present institutional framework needs to be

adapted to ensure the effective implementation of the Master Plan and to guide us in our pathway towards the *"transition écologique"* as new and emerging issues cannot be addressed within the existing framework. The following are the most salient changes related to each Specific Issue identified.

SN	SPECIFIC ISSUES AND THEIR INSTITUTIONAL AND LEGAL FRAMEWORK ADAPTATIONS
1.	**Sustainable Development**: **Short-Term** - Amend the EPA to include provisions supporting sustainable development; revamp the NEC into the National Environment and Sustainable Development Commission; and review the mandate, roles and responsibilities of the Sustainable Development (SD) Division of the MESWMCC to support the changes in the legal framework. **Long-Term** - Introduce a Sustainable Development Framework.
2.	**Strategic Environment Assessment:** **Short-Term** - Amend the EPA to include provisions for SEA; establish a combined new SEA/ EIA/ Preliminary Environmental Report (PER) Division within the MESWMCC; increase access to external expertise; and prepare Guidelines for SEAs programmes, policies, plans and land-use planning. **Long-Term** - Establish an independent SEA/ EIA Division.
3.	***Observatoire de l'Environnement*:** **Short-Term** - Amend the EPA to create an *Observatoire de l'Environnement*; establish an *Observatoire de l'Environnement* National Committee and a Science to Policy Platform; and develop a cooperative arrangement with Réunion Island to establish a joint environment *Observatoire,* building on the French environment *Observatoire* network. **Long-Term** - Eventually co-locate the *Observatoire de l'Environnement* with the University of Mauritius (UoM) to access a wider range of expertise and develop cooperative environmental projects with the academia and the private sector to foster innovative research.
4.	**Circular Economy and Waste Management:** **Short-Term** - Amend the EPA and/ or other environmental legislation to introduce general provisions relevant to a circular economy such as: - (i) a disposal fee for industrial and commercial wastes at the landfill; (ii) waste segregation at source; (iii) obligation on hotels and industrial and commercial sectors to segregate their wastes and send organic wastes for composting and recyclable materials to recyclers; (iv) prohibition of specific wastes from being disposed of at landfills and transfer stations;

SN	SPECIFIC ISSUES AND THEIR INSTITUTIONAL AND LEGAL FRAMEWORK ADAPTATIONS
	(v) implementation of Extended Producer Responsibility (EPR); (vi) setting-up of a construction and demolition wastes management system; (vii) recycling of used tyres and end-of-life vehicles; (viii) introduction of penalties for waste and circular economy regulatory infractions; (ix) establishment of a new Circular Economy Unit in the Solid Waste Management Division (SWMD); and (x) sorting of waste at school level following an intensive sensitisation campaign. **Long-Term** - Develop an Integrated Waste Management Act to cater for all components of solid and hazardous waste management with focus on circular economy.
5.	**Plastic management :** **Short-Term** - (i) Ban the importation of problematic materials and specific petroleum-based single-use plastic items, including Styrofoam. (ii) Adopt a *bonus-malus* Regulations to reduce over-packaging including packaging of food products (levies or tax breaks). (iii) Introduce deposit refund schemes. (iv) Develop a partnership with Réunion Island for the disposal of problematic plastics. (v) Mandate the *Observatoire de l'environnement* to monitor and report on the state of plastic pollution. (vi) Establish enabling conditions to encourage the manufacturing and use of alternatives to plastics. **Long-Term** - Continue the development of a comprehensive plastic pollution regulatory regime to: - (i) ban cosmetic products comprising micro plastics; (ii) require washing machines to be equipped with plastic microfibers filters; and (iii) eliminate single-use plastic in hotels and in the textiles and food and drink sectors, including aquaculture (to ensure recyclability if elimination is not possible).
6.	**Environmentally Sensitive Areas:** **Short-Term** - (i) Make use of conservation easements to protect ESAs. (ii) Review the EPA to enhance coordination among different Ministries involved in the management of ESAs. (iii) Amend the EPA to incorporate ESAs provisions taking into consideration the proposed amendments for mangroves, coral and seagrass in the Fisheries Bill. (iv) Set up an ESAs Committee.

SN	SPECIFIC ISSUES AND THEIR INSTITUTIONAL AND LEGAL FRAMEWORK ADAPTATIONS
	(v) Formalise a list of ESAs, including marine ESAs. **Long-Term** – (i) Develop a conservation strategy, an action plan and priority interventions measure for *in-situ* conservation for all ESAs and their buffer zones. (ii) Adopt pertinent measures to integrate ESAs into decision-making, including in the EIA and the SEA processes, and into the land-use planning criteria.
7.	**Oil Spills and Environmental Emergencies:** **Short-Term** – (i) Develop a National Oil Spill Contingency Plan (NOSCP) for both terrestrial and marine environment and establish a National Spill Advisory Committee. (ii) Define the alert levels according to the severity of the situation (for land and sea spills). (iii) Regularly review and update both the Mauritius NOSCP and the regional coordination and intervention plans. (iv) Initiate negotiations to amend international Conventions regarding compensation to obtain adequate payments for damages incurred by a spill. (v) Assess and update the national and the regional oil spills response capacity. (vi) Provide training programme to address gaps identified.
8.	**Enforcement Strengthening and Compliance Mechanisms:** **Short-Term** – (i) Review the EPA to include the nine (9) priority proposals. (ii) Train officers involved in representing the MESWMCC at Court level. (iii) Develop cooperative arrangements with citizens interested in environmental protection. (iv) Establish an Industrial Waste Audit (IWA) Division to implement the IWA Regulations. (v) Provide reinforcement in terms of staffing of the *Police de l'Environnement* (PdL) to support enforcement activities related to new priority areas under the EPA.
9.	**National Environmental Laboratory:** **Short-Term** – (i) Pursue investment in state-of-art equipment. (ii) Recruit specialised personnel. (iii) Develop a collaborative partnership with the UoM.

SN	SPECIFIC ISSUES AND THEIR INSTITUTIONAL AND LEGAL FRAMEWORK ADAPTATIONS
	(iv) Develop a collaborative partnership with regional laboratories to acquire more expertise. (v) Enhance professional development through staff exchange and other approaches.

4.0 POLICIES AND STRATEGIES FOR RODRIGUES

Part II of the Environment Master Plan (2020-2030) for the Republic of Mauritius explicitly relates to Rodrigues Island and focuses on the island's specific socio-economic and environmental context in making recommendations for its successful *"transition écologique"* within the Republic of Mauritius.

The consultative meetings held in Rodrigues brought forth **eight (8) Thematic Issues** based on the environmental specificities of Rodrigues Island. Each theme describes the current context and the major gaps between the present state of affairs and the desired situation, the targeted outcomes and the required policy options. Further analyses and discussions resulted in 35 cross-cutting policy recommendations and around 235 specific costed actions for an estimated cost of Rs1 billion, which, if successfully implemented, would pave the way for a *"transition écologique"*.

SN	THEMATIC ISSUES
1.	**Waste Management:** to promote circular economy and sound liquid waste management; to develop awareness campaigns targeting the private sector, educational institutions and households with regard to waste management; to provide appropriate infrastructure for waste management activities; and to improve existing institutional framework to foster effective waste management.
2.	**Climate Change and Disaster Risk Reduction:** to mainstream climate change in all sectoral developments such as agriculture, fisheries, tourism, public infrastructure, building sector, coastal zone, water, health, energy, transport, waste and land-use planning; to increase the carbon sink capacity through greening and reforestation; to promote the use of renewable energy and energy efficiency, bio-farming and integrated waste management; and to develop institutions for climate change adaptation, disaster risk reduction and mitigation measures.
3.	**Marine Ecosystem:** to restructure the Fisheries Research and Training Unit into a Marine Academy and Research Centre; to develop a strategic plan for the fisheries sector in Rodrigues; to provide adequate staff and capacity building; and to sustainably exploit off-lagoon resources.
4.	**Terrestrial Biodiversity:** to ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation with any loss of ecosystems services being duly compensated using SEA and natural capital accounting; to increase awareness, participation and engagement of stakeholders at all levels for the protection of

SN	THEMATIC ISSUES
	terrestrial biodiversity conservation; to improve, coordinate and harmonise institutional and legislative frameworks as well as enhance accountability and transparency, and effective enforcement of terrestrial biodiversity conservation; to provide financial support and fiscal incentives to the private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity; to promote research and the development of baseline data, and facilitate access to such data with a view to supporting evidence-based policy-making and management of terrestrial biodiversity; to ensure healthy, well-functioning and resilient ecosystems providing economic, social and environmental benefits; to secure existing biodiversity conservation areas and create new ones across Rodrigues; to encourage the adoption of organic agriculture or climate smart agriculture for economic, social and environmental enhancements and to promote livestock herd management system to sustain and nurture basic natural resources.
5.	**Land and Coastal Rehabilitation:** to promote land-use planning in the land management sector over the island; to favour the practice of integrated coastal zone management in all coastal related development; and to promote a ridge-to-reef approach in the overall management of Rodrigues Island.
6.	**Greening up the Economy/ Business:** to create an institutional framework for green economy; to create a sustainable value chain model for Rodrigues; to disseminate information and training in connection with the greening of the economy; to incentivise green initiatives by private entrepreneurs; and to improve competitiveness of green products and services.
7.	***La Culture Environnementale:*** to set up a network of all related stakeholders for mass sensitisation of the population on environmental issues; to propose activities for the review and updating of the school curricula and promote extra-curricular activities to instill an environmental culture; to revisit policies of private, public and other institutions (Government, schools, private bodies, Small and Medium Enterprises (SMEs), NGOs, and others); and encourage best environmental practices and celebration of world events such as the World Environment Day, the World Ocean Day, the World Clean Up Day and the Earth Day.
8.	**Renewable Energy:** to promote energy efficiency over the island; and to favour maximum use of renewable energy and sensitise the population about the use and importance of renewable energy while also reinforcing local capacities for the promotion of renewable energy in Rodrigues Island.

5.0 MEANS OF IMPLEMENTATION OF THE RECOMMENDATIONS OF THE MASTER PLAN

The total estimated cost for the implementation of the Mauritius Action Plan is Rs15 billion, excluding costs captured under the NDCs, and UNDP/ Global Environment Facility (GEF) project grants. The cost estimates, however, include an approximate amount of Rs11 billion for the waste management sector. It is also estimated that around Rs1 billion would be required for the implementation of the Rodrigues Action Plan.

Both the Action Plans for Mauritius and Rodrigues will be implemented through projects that combine benefits for the environment, the society and the economy. Projects would be carried out by Government in collaboration with stakeholders, subject to budget from annual Government appropriations and/ or funding from donors. The recommendations will be assessed for their priorities on the basis of the urgency posed by the different environmental challenges while keeping in view the fiscal capacity of the country.

It is recognised that, over the past couple of years, reckoning the urgency of the situation, Mauritius has already embarked onto/ implemented several policy recommendations and actions contained in the Master Plan. Included among these are the formulation of the Solid Waste Management Strategy, the updating of the NDCs, the national dialogue on plastic and the promulgation of Regulations on plastics, namely, the Environment Protection (Banning of Plastic Bags) Regulations 2020 and the Environment Protection (Control of Single Use Plastic Products) Regulations 2020. The Capacity for Disaster Reduction Initiative (CADRI) Report 2020 and the National Disaster Risk Reduction Management (NDRRM) Policy, Strategic Framework and Action Plan 2020-2030 have also been approved by Government.

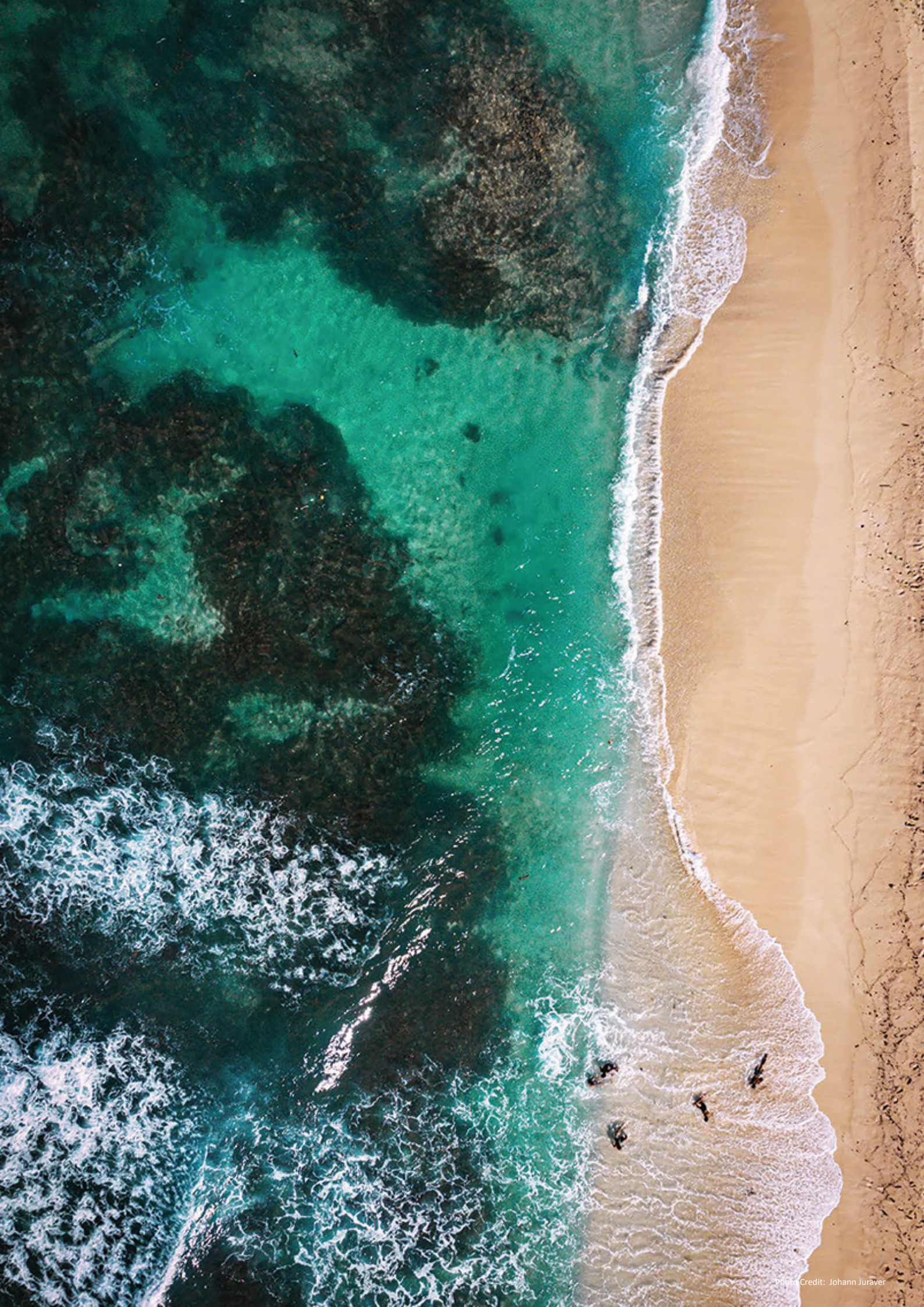


Photo Credit: Johann Juraver

PART I: **MAURITIUS**

Photo Credit: Arwin Neil Baichoo

1.0 INTRODUCTION

1.1 10-Year Vision

What do we want for Mauritius?

At this juncture of its development, Mauritius aspires to become:

"An inclusive, high income and green Mauritius, forging ahead together".

Given the renewed political impetus to achieve this increased ambition, a policy window has opened, offering an opportunity to reflect upon past environmental management practices so as to design new strategic measures, and thereby, enable Mauritius to:

(i) leapfrog to a cleaner, greener, environmentally sustainable, climate change resilient, low emission and circular economy, where environmental conservation, protection and management are enshrined in the culture of citizens and in all organisations of Mauritius; and

(ii) continue playing an international leading role among SIDS and for further partnership in the Indian Ocean region.

1.2 Context

Where are we and what are the tendencies?

Environmental protection and sustainable development have been ranked high on Governments' agenda since the early 1990s. Thirty years down the line, through the implementation of a panoply of measures, legislation, institutional frameworks, policies, strategies and action plans in a wide gamut of environment-related fields, the Republic of Mauritius has been able to achieve significant progress in the protection and management of the environment. Over and above the positive impacts of such policies and measures across the Republic, the country's performance within international rankings such as the Mo Ibrahim Index of African Governance (IIAG), the World Risk Report and the Human Development Index have improved over time **(Box 1).**

Issues and topics such as air, water and wastewater management, energy and renewable energy, environmental education, solid waste management, marine and coastal environmental management, biodiversity conservation, sustainable tourism and fisheries, climate change, as

well as disaster risk reduction and management have been addressed over time by several Governmental agencies responsible for environment-related matters in collaboration with other non-State actors such as conservation NGOs working in cooperation with international organisations.

Nevertheless, the interactions of multiple dynamic causal elements influencing the environment sector have contributed to a number of challenges towards its effective management. Some of those challenges have permeated through time as systemic barriers while others have emerged contemporarily. For example, empirical observations and data collected point to a number of such challenges, which include rapid change in land-use as a result of an increase in built-up areas, gradual loss of ESAs and their ecosystem services, reduction in the green cover, abusive use of plastics, increase in solid waste generation, coastal degradation, littering and dumping, water accumulation during flash floods, siltation and limited maintenance of water courses, as well as unsustainable consumption and production patterns **(Box 2).**

Such environmental challenges are being exacerbated through both local forces (e.g. the behavioural patterns of citizens) and large transformative global forces that impact everyone on the planet (e.g. global warming and climate change). Consequently, some of the international environmental rankings for Mauritius have regressed, notably with regards to scores within the EPI, the Earth Overshoot Day, the Red List of the IUCN and SDGs Index **(Box 1).** Analyses conducted and mentioned within several published reports further point to a number of barriers that hinder proper environmental management in Mauritius, relating to, amongst others:

- legal and institutional frameworks in certain areas;
- strategic planning;
- concerted actions between stakeholders with some institutions working in silos;
- enforcement and monitoring coupled with weak penalties and a lack of harmonisation across offences;
- scientific, technological and innovative capabilities;
- applied research and development and lack of database for proper environmental planning; and
- engagement between institutions and the public.

Positive Trends

Mauritius is ranked 66th out of 189 countries and territories in the 2019 Human Development Index (HDI) report, with a HDI of 0.804. Between 1990 and 2018, Mauritius' HDI value increased from 0.788 to 0.796.

Mo Ibrahim Index of African Governance (IIAG) 2020: with a total score of 77.2 in 2019, Mauritius maintained the top position in overall governance in Africa for ten consecutive years.

The ranking for Mauritius on the World Risk Index has improved from being 13th with the highest disaster risk in 2015 to being 16th in 2018 and 51st in 2021.

Negative Trends

In 2021, while the Earth Overshoot Day was 29 July, Mauritius had attained its overshoot Day much earlier, on 10 July 2021 – a clear sign of overconsumption.

Mauritius was ranked 77th out of 180 countries with an EPI score of 77.85 in 2016, 90th with an EPI score of 56.63 in 2018 and 82nd with an EPI score of 45.1 in 2020. Poor performance relates to biodiversity, climate and energy.

International Union for Conservation of Nature: Mauritius is rated as the 3rd country in the world after Hawaii and Canary Islands to have the most threatened plant species.

SDG Index: Mauritius was ranked 90th out of 156 countries with a score 64.5 in 2018 while it was ranked 95th out of 165 countries with a score 66.7 in 2021.

Box 1: Position of Mauritius in terms of key international ranking/ indices

Against this backdrop and more than a decade after the formulation of the National Environment Policy (NEP) 2007 and the review of the National Environmental Strategies (NES) in 2008, there was a need for a paradigm shift in the environmental policies, strategies and actions. This is particularly relevant with a view to address systemic barriers characterising the environment

sector, as well as contemporary environmental challenges that have emerged over time since the formulation of those guiding planning documents. This shift is also required to meet international obligations such as the SDGs, the NDCs under the Paris Agreement and other commitments at national level **(Box 3).**

Key Local Trends
➢ **In 2020, solid wastes landfilled at Mare Chicose amounted to 509,085 tonnes, 5.2% less than in 2019 (standing at 537,147 tonnes).**
➢ **Sea level rise has been observed to be accelerating in the last decade at an average rate of 5.6 mm/ year compared to the global value of 3.4 mm/ year.** ➢ **Between 1967 and 2012, 17% of our sandy shorelines have eroded. This corresponds to a rate of beach erosion of 0.2m/ year coupled with coral bleaching and reef degradation.**
➢ **The net greenhouse gas (GHG) emissions in 2009 was 3.2 Mt CO_2-eq, 3.7 Mt CO_2-eq in 2014 and 4.84 Mt CO_2-eq in 2020.**
➢ **74,000 tonnes of plastic wastes are landfilled every year, representing 14.5% of the solid municipal waste stream.** ➢ **Only 2,000 to 3,000 tonnes (about 3 - 4%) are recycled yearly, either locally or through export.**
➢ **Loss of ESAs: 90% of wetlands in the north (representing 66% loss) and 16% of total forest cover between 2003 and 2014 (56,600 ha down to 47,103 ha).**

Box 2: Some key local trends

MEAs	Key targets
SDGs	➢ *169 targets for 17 goals by 2030. 232 indicators included.* ➢ *Relevant SDGs include SDGs 1, 12, 13, 14, 15.*
CBD and Aichi Targets	➢ *Aichi Target 10: By 2025, at least 20% of degraded coral reef areas are sustainably managed and/ or rehabilitated.* ➢ *Aichi Target 11: By 2025, at least 16% of terrestrial and inland water and 10% of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved.*
UNFCCC	➢ *Nationally Determined Contributions every 5 years (adaptation and mitigation commitments).* ➢ *Reporting requirements (regular national communications).*
Montreal Protocol on Substances that Deplete the Ozone Layer	➢ *Phase out of Hydrofluorocarbons (HFCs) by 2025.* ➢ *Graduated phase down of HFCs to 80% by 2045 for developing countries.*
Minamata Convention on Mercury	➢ *Prohibit the manufacture, import or export of mercury-added products listed in Part 1 of Annex A of the Convention by 2020.* ➢ *Phase down the use of dental amalgam by taking into account national circumstances and international guidance.*

Box 3: Examples of some MEAs and key targets

Furthermore, the need for a deep review of the environmental strategies has been exacerbated by the COVID-19 pandemic. In a very short period of time, nations over the world, including Mauritius, have been compelled to implement a series of measures such as lockdown of activities

to slow down the infection rate of COVID-19. Economic activities have stalled, people have been forced to stay at home and social distancing and working remotely have become the norm. The global death toll has grown to over 5 million by December 2021 and this pandemic has brought widespread job losses and threatened the livelihoods of millions as businesses struggle to cope with the restrictions being put in place to control the virus.

Addressing all these challenges (especially in a post COVID-19 era) will require a sustainability transition, which will be referred to within this document as a "*transition écologique*". Hence, the development of this **Master Plan on the Environment for Mauritius (2020 – 2030)**, which defines a new wave of thinking, new mindset, new approach to business, new strategic partnerships, enhanced cooperation among Government bodies, amongst others, through holistic, coherent and enhanced policies, strategies and action plans for the environment.

This **Master Plan on the Environment for Mauritius (2020 – 2030)**, which comprises a 10-year policy and strategy, is the outcome of a national consultative process undertaken between December 2019 and December 2021.

1.3 Achieving the Vision

How to achieve the 10-year vision

1.3.1 Stakeholder consultations

One of the underlying principles behind the concerted and participatory approach used for this exercise is *'leaving no one behind'*. In this context, the MESWMCC organised a two-day *"Assises de l'Environnement"* on 16 and 17 December 2019 and a consultative workshop on 16 and 17 December 2020. The objectives of these multi-stakeholder consultations were to: -

(i) take stock of the concerns of citizens and their aspirations and seek suggestions for the protection and management of the environment;
(ii) identify gaps in the actual practices, seek views on approaches to address challenges in the environment sector and come up with feasible measures for the short, medium and long terms; and
(iii) rally support for a greater sense of belonging towards environmental protection and partnerships at all levels and social groups for better environmental stewardship and sound management of national environmental assets.

More than 400 participants from some 200 institutions partook in the event in 2019 and approximately 130 participated in the workshop in 2020. Those participants included stakeholders from Government bodies, parastatal bodies, private sector (operators in the commercial and industrial sectors), academia, research institutions, experts and practitioners, NGOs, socio-cultural organisations and CSOs, including gender groups and youths, thereby, being a host of different perspectives and expertise in this exercise. Members of the public were also invited to submit their views, comments and suggestions electronically or by post to the MESWMCC.

Besides, further to consultation with the Ministry of Social Integration, Social Security and National Solidarity, it is recommended that specific consideration be given to the needs of persons with disabilities, as provided for under the United Nations Convention on the Rights of Persons with Disabilities, particularly Article 9 thereof, during the implementation of projects and measures being proposed in this Master Plan.

1.3.2 Scoping the "environment" issue

Focusing on priorities and finding the best approach.

The environment sector being vast, there was a need to structure debates and scope down the most pressing environmental issues for analysis, to **eight (8) Thematic Areas.** These comprise: -

(i) la culture environnementale;
(ii) urbanisme et politique environnementale;
(iii) le changement climatique;
(iv) zones côtières et environnement marin;
(v) biodiversité et ressources naturelles;
(vi) lutte contre la pollution;
(vii) la gestion des déchets; and
(viii) contrôle des déchets plastiques.

The following analytical procedures were pursued for each Thematic Area: -

(i) gaps and needs identified by all stakeholders;
(ii) policies required to address each of those gaps;
(iii) strategies that need to be adopted to implement those policies; and
(iv) actions needed to operationalise those strategies in the short-term (0-2 years), the medium term (2-4 years) and long term (4-5 years).

A vision describing the long-term objectives or outcomes for each theme as well as policy orientations/ recommendations were also devised. Based on those visions for the Thematic Areas, an overall 10-year strategic vision was formulated.

Finally, through the thematic discussions, **nine (9) complementary Specific Issues** that needed their own analysis and review to allow for the formulation of policy, institutional and legal recommendations were identified. In many instances, these are cross-cutting and support the Overarching Areas, as hereunder: -

(i) Sustainable Development;
(ii) Strategic Environmental Assessment;
(iii) *Observatoire de l'environnement;*
(iv) Circular Economy and Waste Management;
(v) Plastic management [3];
(vi) Environmentally Sensitive Areas;
(vii) Oil Spills and Environmental Emergencies;
(viii) Enforcement Strengthening and Compliance Mechanisms; and
(ix) National Environmental Laboratory.

Plastic and Waste Management are two of the overarching Thematic Issues. They are also part of the Specific Issues because of the urgent need to find and implement measures to address these matters. These **nine (9) Specific Issues** need a slightly different analytical approach from the overarching issues to suit the conditions of the Republic of Mauritius and to become institutionalised and legally formalised. For each issue:

(i) the context was determined including the outcome desired;
(ii) a review of international Best Practices (BP) in place in several countries, including SIDS and those recommended by international organisations such as the United Nations (UN), the World Bank and the Organisation for Economic Co-operation and Development (OECD), was conducted. The review of SIDS BP is necessary because of their environmental, social, economic and governance characteristics akin to those found in Mauritius;
(iii) a gap analysis to identify the missing institutional and legal provisions was conducted; and
(iv) a series of recommendations addressing the institutional and legal gaps and to facilitate, with concrete measures, the *"transition écologique"* and finally, recommendations to amend the EPA, were made.

[3] Plastics and National Environmental Laboratory were identified during consultations held over the period June to August 2021.

1.3.3 Global Environmental Management Best Practices

For Thematic Issues

An analysis of policies and measures in place in various countries and regions was conducted to scope out the best practices and to guide the policy mix to address the thematic issues. This analysis considered three categories of policies and measures, as hereunder: -

(i) command and control instruments;
(ii) economic instruments; and
(iii) soft instruments (other instruments).

A more detailed description of these policies and measures is presented in **Appendix 1.**

The best practices adopted in several countries in terms of the most innovative approaches for the thematic issues have been analysed. It was observed that the policy mix is very dependent on the economic, political, social, cultural and environmental situations. For example, an economically advanced society will most likely have a wide array of policy and measures, a federated state will have shared responsibilities with lower Governments, a small but densely populated country will have stricter policies, etc. Comparing countries is useful, but the choice of a policy has to take into consideration the context, the local capacity and finally the possibility of introducing a new policy within the existing policy mix. The analysis covered a wide number of countries and regions around the world as follows: -

- **Nordic Countries:** Denmark, Finland, Iceland, Norway, Sweden – as well as the Faroe Islands, Greenland and Åland which falls under the jurisdiction of Finland.
- **Asian Countries:** Japan, Singapore and India.
- **Europe:** European Union (EU), Portugal, Spain, France, Netherlands, Scotland and the United Kingdom (UK).
- **Africa:** Rwanda, Kenya, Nigeria and Zambia.
- **Others:** Canada, Hawaii and Australia.

A description of the selected policies and measures of these countries and regions is presented in **Appendix 2.**

For Specific Issues

Identifying best practices for specific issues has required a more targeted approach than that for thematic issues. This analysis focused on selected countries that had a demonstrated efficient policy mix and on international institutions that had studied each policy and made recommendations on the best approach and implementation process. Some of the institutions

retained are the OECD, the World Bank, the Food and Agriculture Organisation (FAO), the UNEP, the UNDP, and the EU. Specialised literature has been reviewed to further appreciate the breadth of the issues and their solutions.

Furthermore, a review of best practices has included selected SIDS. This focus on SIDS can be considered as a reality check for choosing policies and measures for Mauritius. A common feature of SIDS is the limited access to resources and technology, a high exposure to global environmental issues such as climate change (sea level rise and extreme weather events), plastic pollution, loss of biodiversity and finally the need to cover all aspects of environmental management with limited human and budgetary resources.

1.3.4 Leading the Master Plan development

Whilst the MESWMCC has the broad mandate to spearhead and coordinate overall policy and strategic direction for environmental protection and management, different Ministries and Departments have specific mandates to look at a host of environment-related issues. For instance -

- energy, water and wastewater management are under the responsibility of the Ministry of Energy and Public Utilities (MEPU);
- land-use planning is addressed by the Ministry of Housing and Land Use Planning (MHLUP);
- pesticide residues, soil, compost and forest management, and terrestrial biodiversity are tackled by the Ministry of Agro Industry and Food Security (MoAIFS);
- marine biodiversity, sustainable fisheries and waters in the zone (other than water in the port) fall under the mandate of the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS);
- noise, problems with drinking water and odour issues are addressed by the Ministry of Health and Wellness;
- enforcement of environmental laws within a given administrative area falls under the mandate of concerned Local Authorities (LAs); and
- the environmental management of outer islands rests with the Outer Islands Development Corporation, which is under the Prime Minister's Office (Rodrigues, Outer Islands and Territorial Integrity Division).

The scope of the Master Plan was subsequently broadened while keeping environmental impacts as a connecting red line, to include recommendations addressing sectors of relevance to the environment (such as fisheries, wastewater management, sustainable tourism, sustainable agriculture, chemicals and pesticides management, energy, transport and disaster risk

reduction). The recommendations made in the Master Plan are, therefore, **complementary and additional** to existing planning policies of various Ministries and public authorities. The Plan also covers Rodrigues where consultations and workshops were held.

1.3.5 Structure of the report

The Master Plan on Environment for the Republic of Mauritius is organised in two (2) parts as follows: -

Part I: Mauritius Master Plan
Part II: Rodrigues Master Plan

2.0 POLICIES AND STRATEGIES FOR MAURITIUS

One of the main functions of the Master Plan is to set in place the conditions to favour and possibly accelerate the "*transition écologique*". This is accomplished by developing and putting in place:

- overarching policies and strategies that address systemic issues derived from wide-ranging socio-economic root causes such as development models that are beyond nature's capacity;
- thematic policies and strategies that address extensive Mauritian environmental issues; and
- specific policies and strategies that are specific to Mauritius and that need operational solutions such as changes to the environmental legislation or the roles and responsibilities of the MESWMCC.

2.1 Overarching Policies and Strategies to Operationalise a "Transition Écologique" in Mauritius

While established/ traditional environmental policies focussing on efficiency improvements are still necessary, those need to be grounded within a broader perspective that addresses systemic barriers.

2.1.1 Integrating environmental and climate change rights in national laws

Cross-cutting Policy Recommendation 1
To amend the EPA and the Climate Change Act, as appropriate, taking into consideration, *inter alia*, human rights, including the needs of persons with disabilities[4], cultural heritage and gender issues.

Cross-cutting Policy Recommendation 2
To upscale the Master Plan into a full-fledged National Environmental Policy, Strategy and Action Plan, as well as develop a new Environmental Investment Programme.

[4] As provided under Article 9 of the United Nations Convention on the Rights of Persons with Disabilities.

A "*transition écologique*" is a long-term, multi-dimensional process that requires profound changes in dominant institutions, practices, technologies, policies, lifestyles and thinking to address current environmental challenges. Addressing those different interacting elements require (a) simultaneous consideration of local and global dimensions, (b) the integration of economic, social, cultural, political and ecological factors, (c) a broadening of spatial and temporal horizons as well as (d) the articulation of both top-down policies and measures with bottom-up grassroots initiatives. Contemporary environmental management and planning require addressing root cases of environmental issues. While established/ traditional environmental policies focussing on efficiency improvements are still necessary, those need to be grounded within a broader perspective that addresses systemic barriers.

Systemic barriers need to be addressed through a number of cross-cutting overarching policies and strategies. Their implementation has the potential to significantly improve the management of environmental resources and facilitate a *"transition écologique"*. Consideration has also been given to gender mainstreaming into environmental policies, strategies and action plans.

The right of citizens to a "clean environment" or for the Government to undertake action on contemporary issues such as climate change, is not enshrined within the national laws. The benefits to include these rights in the legislative framework would be as hereunder: -

- stronger environmental laws;
- court decisions defending the right from violations; and
- possibility for Government to purchase land for environmental protection.

Many countries have adopted a Sustainable Development Act over the past 30 years. The main goal of such legislation is to formalise a *"transition écologique"* that pervades the economy, society and governance. Such legislation formalises the transition and the process to achieve targets set under the UN SDGs (2015 – 2030).

The 2020-2030 Master Plan is the foundation of the *"transition écologique"*. Its policies, strategies and detailed 5-year Action Plan will underpin the transition to a more sustainable development in Mauritius and the required investments.

2.1.2 Adopting an inclusive dialogue approach to environmental protection

Cross-cutting Policy Recommendation 3
To encourage an inclusive dialogue on environment and climate change.

In line with the objective of addressing long-term systemic barriers to proper environmental management and operationalising a "*transition écologique*", there is a need to conceptualise

environmental planning over much longer time frames than that of the relatively short-term focus of economic and social policies or that of short-term political cycles. For example, in light of its economy-wide impacts, climate change mitigation planning towards carbon neutrality may require 30-year to 50-year plans. Such long timelines are typically not envisaged within traditional planning documents.

During the consultations in the build-up to the formulation of the current Master Plan, concerns were raised regarding the fact that changes in political administrations may entail a parking or downgrading of policies elaborated by previous ruling parties. Such short-term adversarial partisan culture can spill over environmental governance matters, thereby, hampering sustained long-term environmental planning.

2.1.3 Review Mauritius' development model to enable a sustainability transition

Cross-cutting Policy Recommendation 4
To promote circular economy as an overarching paradigm through establishment of circular economy clusters.

Cross-cutting Policy Recommendation 5
To integrate Natural Capital Accounting within National Accounts to enable informed decision-making on matters impacting the environment.

Cross-cutting Policy Recommendation 6
To develop and implement a long-term strategy to achieve carbon neutrality by 2070.

Environmental issues used to be related to industrial (including resource exploitation) or municipal activities. While these activities continue to generate site specific pollution and environmental degradation, our global environment is now affected by diffuse pollution that exceeds the carrying capacity of ecosystems. Moreover, weakened ecosystems now have a reduced capacity to produce ecological services, such as CO_2 capture, erosion control, water purification, pest control and temperature control amongst others, that would naturally counter the effects of pollution. The sum of all environmental stresses on our planet has brought the consideration of the concept of "Anthropocene" by scientists, which means that the planetary evolution and cycles have moved into a new geological epoch characterised by human domination of the planetary systems[5].

[5] https://www.nature.com/articles/d41586-019-02381-2

Such issues call for increased efforts in terms of (a) reconciling development and environmental protection; (b) fostering sustainable production and consumption, resource efficiency, greening of the economy; (c) mainstreaming of sustainable development principles in various sectors of the economy; and (d) enhancing resilience to climate change related impacts and disasters. Given the scale of the challenge, a mere quick fix in policy re-orientations will not suffice. Rather, there is a need to rethink our development model at its core. In Mauritius, this means embracing a paradigm shift in policies and strategies to address environmental concerns.

2.1.4 Strengthen development control mechanisms in Mauritius

Cross-cutting Policy Recommendation 7
To develop a Strategic Environmental Assessment (SEA) framework to enable the conduct and review of SEA at district level/ Local Authorities' jurisdictions and ultimately, allow development only within the carrying capacity of ecosystems.

Cross-cutting Policy Recommendation 8
To legally protect and conserve all Environmentally Sensitive Areas (ESAs). For ESAs of prime importance situated in private domain, Government to acquire these and promote nature-based solutions as a strategy to enhance resilience to climate change impacts.

Cross-cutting Policy Recommendation 9
To integrate ESAs in National Development Strategies and land-use planning process and documents such as the Outline Planning Schemes.

Land is limited in Mauritius, with most of the prime lands having already been developed. Developments are now being proposed on difficult sites and on ESAs such as sloping land, islets and wetlands, thereby, creating a host of environmental challenges. For example, development close to, or on backfilled wetlands, has disrupted water flow. These disruptions have considerably contributed to the occurrence of water accumulation in some areas during heavy rainfall. Indicatively, in 2016, the Mauritius Fire and Rescue Service has identified 128 locations in Mauritius where flooding events have occurred and whereby interventions were required (Ministry of Environment, Sustainable Development, and Disaster and Beach Management, 2016). Moreover, over the last decade, it has been observed that the frequency of flash floods has been on the rise, even resulting in fatalities and damage such as the events of 26th March 2008 and 30th March 2013 where Mauritius recorded several deaths related to flash flood occurrences. Such impacts of the combined effects of development and climate change indicate that careful land-use planning is now a necessity. Repercussions of inadequate planning have, as of late, included contestations of a series of EIA licences at the level of the Environment and Land Use Appeal Tribunal (ELUAT).

Furthermore, the negative impacts of undertakings on the environment are becoming more complex, larger in scale and more expensive to address. Government budget estimates indicate that funds for implementing flood mitigation measures have increased by at least Rs5 billion from the years 2002 to 2020 (MoFEPD, 2020). The scale of investments to address environmental challenges is expected to further increase over time with the impacts of climate change. Development needs to stay within the carrying capacity of the environment for those irreversible impacts to be avoided. Ecosystems that render vital services to society need to be preserved not only for the environmental benefits they generate and for the wellbeing of the communities and the country in general, but also to avoid the need for significant financial investments down the line.

2.1.5 Strengthen the legal and institutional framework for environmental protection

Cross-cutting Policy Recommendation 10
To review, strengthen, harmonise the Environment Protection Act and other environmental laws, along with a review of the environmental governance and institutional framework to achieve more effective environmental management and protection, supported by a rigorous enforcement mechanism and by the use of regulatory impact assessments.

Cross-cutting Policy Recommendation 11
To formulate a Sustainable Development Framework and to revamp the NEC into the National Environment and Sustainable Development Commission, and to enlarge its portfolio to holistically plan and guide development across economic, social and environmental dimensions.

Cross-cutting Policy Recommendation 12
To establish a Council for Environmental Experts and Practitioners to ensure, *inter alia*, continuous capacity and skills development.

Cross-cutting Policy Recommendation 13
To set up an Environment Expert Group (Think Tank) comprising independent experts and practitioners under the Ministry of Environment, Solid Waste Management and Climate Change to advise on issues with limited in-house expertise.

Note: These cross-cutting policy recommendations appear under "*Strengthening environmental legislative and institutional frameworks".*

The MESWMCC has established linkages and is cooperating with several other institutions to assume its responsibilities. However, this scattered approach to environmental management, including for legal enforcement, is hindering efficient delivery of programmes and actions with regards to the following: -

- limited capacities of Enforcing Agencies imply that environmental sustainability is not always captured in their strategic orientations and directions;
- law enforcement in Mauritius, including prosecution, is currently poor. Thus, the deterrent aspect resulting from enforcement is not influencing the behaviour of polluters who are able to continue emitting pollutants in the environment; and
- limited competencies in fields such as coastal engineering, environmental economics, Geographical Information System (GIS), circular economy and ocean economy, have hampered the implementation of concrete solution to environmental issues.

The policy of the Government is towards achieving the sustainable development paradigm. However, the MESWMCC has little influence on other dimensions of sustainable development, e.g. social and economic.

Moreover, there is growing global recognition that addressing the major societal challenges of our age and achieving sustainability objectives will require fundamental changes in lifestyles and patterns of consumption and production in all industrialised and industrialising countries. The institutional and legal frameworks shaping environmental governance in Mauritius will need to better address grand challenges and multidimensional sustainability objectives.

2.1.6 Reinvigorate environmental stewardship at all levels

Cross-cutting Policy Recommendation 14
To implement a mandatory Environmental Charter for all public and private bodies defining their engagement for implementation of environmental measures, lowering of their carbon footprint and the establishment of a reporting mechanism.

Cross-cutting Policy Recommendation 15
To enhance empowerment of stakeholders to help in protecting the environment through measures such as: - **(i) establishment of a forum for NGOs and CSOs on environmental programmes with the support of the private sector;** **(ii) promoting a mechanism for community watch;** **(iii) implementing an Environmental Whistle Blower Programme;**

(iv)	adding new themes to current scope of CSR funding;
(v)	creation of Environment Clubs at Village Council level to spearhead village greening and monitor cleaning;
(vi)	setting up of an Environment Volunteers Programme; and
(vii)	encouraging the creation of backyard/ kitchen gardens.

Cross-cutting Policy Recommendation 16
To promote the greening of spaces in public and private institutions, including businesses and commercial activities.

Cross-cutting Policy Recommendation 17
To allocate/ acquire lands for the setting up of community gardens, green areas and health tracks in all villages and towns where there are no such facilities.

Although the MESWMCC, in collaboration with a number of non-state actors, has been fully engaged in trying to instil a culture of environmental stewardship in citizens, the industrial sector and other stakeholders, observations made have shown mixed results. There is thus, a need to re-think and reinvigorate the environmental stewardship policies and strategies at all levels.

2.1.7 Boosting resource mobilisation for environmental protection

Cross-cutting Policy Recommendation 18
To use innovative economic instruments and provide targeted fiscal incentives for environmental protection, for example, through crowdfunding, new forms of Public Private Partnerships (PPPs), green bonds, and Environmental Protection Fee for pollution/ high risks business activities.

Cross-cutting Policy Recommendation 19
To restyle the "Corporate Social Responsibility" funding as the "Corporate Social and Environmental Responsibility" to include new eligible projects targeting a wider range of environmental issues.

Cross-cutting Policy Recommendation 20
To provide incentives and/ or economic instruments for the greening of the transport sector.

Cross-cutting Policy Recommendation 21
To introduce new fiscal measures such as private sector sponsorship to communities as an encouragement for them to participate in activities related to frequent maintenance of public places and ecosystem services as well as adoption of ESAs across the island.

Cross-cutting Policy Recommendation 22
To establish a donor's coordination mechanism under the MESWMCC for a sustainable approach in environmental protection and conservation.

Cross-cutting Policy Recommendation 23
To task the MEAs Committee (established under the EPA) to explore all potential windows for optimal resource mobilisation from international funding institutions, donors, bilateral cooperation, and regional organisations to meet the requirements of global MEAs such as the UNFCCC, the CBD and the Stockholm Convention on Persistent Organic Pollutants.

In order to fulfil Mauritius' national environmental goals and needs, as well as commitments ratified at the international level, significant investments will be required. This is especially relevant in a post COVID-19 context, where significant resources have had to be placed to support the economy of Mauritius.

In 2018, and prior to the COVID-19 pandemic and its impacts on society, the NEC had recognised the need to allocate substantial financial resources to address environment-related issues as a matter of urgency. This has culminated into the revamping and consolidation of the National Environment Fund (NEF), currently the National Environment and Climate Change Fund (NECCF), which was recapitalised with Rs2 billion for the financial years 2018-2020 and with an additional Rs2 billion in the financial year 2020-2021. However, the implementation of the mitigation and adaptation measures under the Paris Agreement alone is estimated at Rs190 billion.

To fill this financial gap, enhancing efficiency in investments and resource mobilisation from local, regional and international sources as well as from multilateral funding mechanisms (e.g. MEAs) and furthering the use of economic instruments are the priority approaches.

2.1.8 Improve transparency and communication with stakeholders

Cross-cutting Policy Recommendation 24
To set up an "*Observatoire de l'Environnement*" under the *aegis* of the MESWMCC to monitor and communicate on EPI/ health of environmental media, and share on best practices.

Addressing environmental challenges requires a careful assessment of information from a variety of sectors and sources. This is particularly relevant given that the outcomes of environmental policies may have a strong impact on those who have either a direct or an indirect stake at hand.

Consultations within the formulation of the Master Plan have also highlighted a communication gap between the MESWMCC and some NGOs, which, sometimes, has led to unnecessary misunderstandings and conflict. To address these issues and more broadly, to better communicate, the creation and accumulation of robust bodies of knowledge, along with their dissemination, use and integration in decision support systems is essential. The objective is to improve the use of empirical evidence to support the decision-making processes at the level of Government, as well as ensuring the buy-in of stakeholders.

2.1.9 Enhance applied research and innovation on environment issues

Cross-cutting Policy Recommendation 25
To support and enhance applied research and innovation on environment issues, set up a Science-to-Policy platform, comprising relevant bodies, including the academia under the MESWMCC to serve as an advisory body for improved environmental governance, evidence-based decision-making and adaptive management.

The COVID-19 pandemic has convincingly illustrated that up-to-date scientific and technological research is vital for humanity's wellbeing. It is also essential to allow humans to adapt to the changing environment, as well as to the current rate of environmental degradation and resource depletion. However, as at date, the link between environmental research and the policy-making process is not well structured. Given that specialised expert advice can be highly valuable when making complex policy decisions, there is a need to improve dialogue between those working in the science and policy sphere when drafting guidance or Regulations on complex environmental topics.

2.1.10 Upscaling policies and measures in key sectors impacting the environment

Cross-cutting Policy Recommendation 26
To mitigate the environmental impacts associated with wastewater.

Cross-cutting Policy Recommendation 27
To mitigate environmental pollution and promote food safety by upscaling sustainable agricultural practices for both crop and livestock sectors.

Cross-cutting Policy Recommendation 28
To enhance environmentally sustainable practices in the tourism sector and promote new and green products to support responsible tourism.

Cross-cutting Policy Recommendation 29
To mitigate the impact of pesticides, including from their use in golf courses, on the environment.

Economic and social developments bring numerous benefits as well as negative effects to society. Policies that aim to prevent and address these negative impacts need to be frequently reviewed and updated to ensure that they are up to the challenge of protecting the environment with changing conditions including greater environmental pressures or new threats from new contaminants or changing environmental conditions such as those imparted by climate change.

Amongst policies in need to be reviewed, are those related to accessing proper wastewater treatment in populated areas that will ensure that ground, surface and coastal waters are not impaired and that the health of citizens and tourists is not affected.

Agricultural policies must be reassessed regularly because of the significance of water pollution including pesticides and GHG emissions emanating from farming operations. To contribute to the "*transition écologique*", agricultural policies will need to encourage more sustainable practices including those that can satisfy consumer demand for products and services that meet higher environmental standards particularly in food.

Due to their persistence, pesticide uses need to be re-evaluated regularly, particularly when they are used in sensitive areas. Their uses are not limited to farming operations but include golf courses and public areas such as municipal parks.

2.1.11 Mainstreaming gender

Cross-cutting Policy Recommendation 30
To enhance capacities for gender mainstreaming and women's empowerment in the environment sector.

Cross-cutting Policy Recommendation 31
To support and strengthen gender-responsive policy research and foster availability of disaggregated data.

Cross-cutting Policy Recommendation 32
To enhance and sustain gender responsiveness in the environment sector.

Cross-cutting Policy Recommendation 33
To enhance the establishment of a monitoring and evaluation system that supports gender mainstreaming in the environment sector.

Cross-cutting Policy Recommendation 34
To promote partnership and knowledge management on gender mainstreaming on environmental issues.

The necessity for gender mainstreaming in environmental policies rests on two main preoccupations, namely, the differential impact of environmental issues on women and their ability to advance sustainable consumption and consumption practices. Women in developing countries spend more time collecting water, wood and coal away from their homes and are more exposed to indoor air pollution from cooking. In most countries, women suffer more and are exposed to heat waves, chemicals and air pollution from travelling in urban areas. Often these problems are exacerbated by their lower economic situation.

The 2030 Agenda acknowledges gender equality and women's empowerment as a key SDG (SDG 5) in its own right. In fact, the new OECD study "Applying a Gender Lens on the SDGs Targets" classifies 104 of the SDG indicators as explicitly gender-related[6]. Without an emphasis on gender-based policies, progress will be slow. Furthermore, there is a need to capitalise on women's higher receptivity to the circular economy and their receptivity to sustainable consumption and production patterns, both of which are essential to supporting the needed "*transition écologique*".

Unfortunately, little data and information is available to develop appropriate policies. Available data is also rarely disaggregated by sex, and there are limited monitoring and research to fill this gap.

The OECD (opus cit.) submits six (6) priority areas to advance the gender-environment nexus as follows: -

(i) green economic transition for women and men;
(ii) sustainable consumption and production patterns (Circular Economy);
(iii) infrastructure (sustainable mobility) and gender;

[6] Global Forum on Environment: Mainstreaming Gender and Empowering Women for Environmental Sustainability, Paris, March 2020.

(iv) environmental effects on health;
(v) women in governance and leadership; and
(vi) climate change implications by gender.

Significant and rapid progress towards the "*transition écologique*" could be made with more gender-focused policies. Such a focus is essential and could be a catalyst to imparting a paradigm shift in the current socio-economic model that undermines a development respectful of the limits of the planetary ecosystem.

3.0 THEMATIC AREAS POLICIES AND STRATEGIES

3.1 La Culture Environnementale

A sound environmental culture is one of the most important pillars for a successful ecological transition. Environmental culture relates to the behaviours, attitudes, practices and knowledge of individuals, households, groups and organisations with respect to maintaining or protecting natural resources, the ecosystem and all other external conditions affecting human life, livelihoods and wellbeing.

3.1.1 Where We Are – Major Gaps/ Needs

a) Irresponsible behaviour and disrespect of some people towards the environment.
b) Very limited and uneven environmental culture across institutions and economic and social sectors, both public and private.
c) Collective lack of engagement in the promotion of pro-environmental attitudes and behaviours. There is a need for role models.
d) Unwillingness by the public to adopt good environmental practices.
e) Limited research and understanding of people's conception (individual, group and organisations), attitudes and behaviours towards the environment and the changes required.
f) Larger focus on the economy at the expense of the environment.
g) Greater environmental consideration required by policymakers.
h) Educational curriculum does not adequately address environmental practices towards inculcating pro-environmental behaviours.
i) Modules relating to sound environmental practices in tertiary and professional courses are limited.

3.1.2 Long-Term Objectives / Targeted Outcome

A vibrant, thriving environmental culture is established and nurtured in Mauritius in which environmental values are deeply enshrined and eco-friendly attitudes, behaviours and actions are adopted to achieve the SDGs.

3.1.3 Proposed Policy Orientations

Policy 1: Reach out to all stakeholders through '*une approche de proximité*' to inform and catalyse environment responsible behaviours and actions.

Policy 2: Establish partnerships with all social groups and/or organisations and enable a conducive environment to bring the needed change in mindset leading towards an ecological transition.

Policy 3: Review and update curriculum and/or extra-curricular activities (primary, secondary and tertiary levels) to instil an environmental culture.

Policy 4: Revisit policies of institutions (such as schools, Government and private bodies, SMEs, industries, and others) to encourage best environmental practices.

Policy 5: Empower different target groups through environmental education, training and awareness on topics such as climate change, coastal zone management, pollution prevention, biodiversity, waste management, sound environmental practices, amongst others, and on their interconnections.

Policy 6: Mainstream environmental considerations in decision-making at the level of policymakers (cross-cutting issue that is being captured under overarching policies).

Policy 7: Encourage, support and disseminate research on environmental culture at different levels in the Mauritian population.

3.1.4 Proposed Strategies

See **Appendix 3.**

3.2 Urbanisme et Politique Environnementale

3.2.1 Where We Are – Major Gaps/Needs

Environmental planning aims at building the resilience of the country through the efficient management of its ecosystems and the built environment. Mauritius aims at promoting strong sustainability to enhance ecosystem services and protect ESAs through sound environmental planning.

During the past decades, development has largely changed the urban and countryside landscapes with the emergence of new residential areas, smart cities, hotels, expansion of the road network and new transportation systems, among others. This has significantly contributed to the escalation in paved and impermeable surfaces, which are in turn having cumulative impacts on the environment and ecosystems.

Uncontrolled and illegal constructions, as well as over-concentrated development in urban areas, are directly impacting on access to adequate, safe and basic services (e.g. access to water, sanitation and waste management) and are also increasing the vulnerability of populations to natural disasters and communicable diseases. In addition, the present land-use planning has resulted in incompatible development, with the siting of polluting activities near sensitive land uses such as residential areas and schools, thus, causing significant environmental issues such as odour, noise, air and water pollutions.

Furthermore, given increasing demand for scarce land resources, future development is now being done on or around ESAs. This is affecting essential ecosystem services, causing habitat destruction, loss of biodiversity and degradation of watersheds. Consequently, effective environmental planning needs to drive land-use planning and any future development in Mauritius for sustainable communities.

3.2.2 Long-Term Objectives/ Targeted Outcome

A clean and green environment with effective ecosystem services to sustain human wellbeing, livelihoods and resilient societies.

3.2.3 Proposed Policy Orientations

The environmental dimension of land-use planning of Mauritius shall be as follows: -

Policy 1: Ensure harmonised, inclusive and participatory land-use and environmental planning aligned to SDGs using robust planning tools.

Policy 2: Ensure resilient development through the protection and valorisation of ESAs.

Policy 3: Ensure inclusive and transparent decision-making in the environmental assessment process.

Policy 4: Promote ecosystem-based and strong sustainability approach to development for an ecological transition and for building resilient communities.

Policy 5: Empower authorities and stakeholders involved in development for robust planning, implementation, enforcement and monitoring.

Policy 6: Increase green cover and promote human wellbeing through inclusive and nature-based solutions.

3.2.4 Proposed Strategies

See **Appendix 4.**

3.3 Le Changement Climatique

Climate change is one of the most daunting challenges the world is facing. GHG emissions, the root cause of climate change, are increasing. As a result, climate change impacts are considerably disrupting economies, affecting livelihoods and communities. The effects of climate change include slow onset and extreme events such as storm surges, flash floods, landslides, inland flooding and coastal inundation.

Along this line, Mauritius has taken bold commitments through its updated NDCs to reduce its GHG by 40% by 2030 based on a business-as-usual scenario. The NDCs also include adaptation measures identified in key sectors, namely, agriculture, water, coastal zone, tourism, fisheries and blue economy, biodiversity, health, infrastructure and disaster risk reduction. Accordingly, the first National Climate Change Adaptation Policy Framework (2012) was updated in 2021. Additionally, a long-term Mitigation Strategy and Action Plan is being developed.

Furthermore, in terms of climate change governance, the Climate Change Act came into force on 22 April 2021. The Act aims at paving the way towards a low carbon economy and strengthening our resilience to the impacts of climate change. The Act also provides for the coordination of measures related to disaster risk reduction.

To ensure that Mauritius is well prepared to address the impacts of disaster, the Mauritius CADRI Report and the NDRRM Policy, Strategic Framework and Action Plan have been developed in line with Sendai Framework 2020-2030, the SDGs as well as the Paris Agreement.

3.3.1 Where We Are – Major Gaps/Needs

a) Inadequate adaptation measures to enhance resilience to the adverse impacts of climate change.
b) Impacts of climate change are not fully integrated in the NDCs.
c) Natural capital accounting is not reflected in the assessment of development projects.
d) Insufficient sectoral climate change mitigation strategies and actions plans to meet the NDC target of 30% GHG emission reduction by 2030 (the revised target in the latest NDC is now 40%).
e) Carbon sink (area under green cover) is decreasing.
f) Insufficient capacity of some of the stakeholders, including CSOs, to engage in the process of addressing climate change issues due to, *inter alia*, lack of information, absence of proper platforms for discussion and limited resources (human, technical, technological and financial).
g) Protection from the impacts of climate change, as a human right, is not enshrined in the Constitution of Mauritius.
h) Insufficient awareness raising and education on climate change *(addressed under the Theme "La Culture Environnementale").*
i) Inadequate buffer and set back in the coastal zones *(addressed under "Theme: Zones Côtières et Environnement Marin")*.

3.3.2 Long-Term Objectives / Targeted Outcome

Make Mauritius a climate-resilient country, in line with SDG 13 and Agenda 2063 and achieve a low-emission economy, while aiming at carbon neutrality by 2070.

3.3.3 Proposed Policy Orientations

Policy 1: Enhance the resilience of Mauritius through a regional and water-catchment approach to climate change by promoting, preferably, nature-based solutions, taking into consideration Natural Capital Accounting and adopting a ridge-to-reef approach in all initiatives related to climate action.

Policy 2: Accelerate mainstreaming of climate change in key sectors of the economy such as agriculture, fisheries, tourism, public infrastructure (schools, hospital, etc.), building, coastal zone, water, health, energy, transport, waste, industry, land-use planning and disaster risk reduction.

Policy 3: Reduce our reliance on fossil fuels by 2050, promote the use of renewable energy, encourage energy efficiency, e-mobility, bio-farming, and integrated waste management (circular economy).

Policy 4: Increase the sink capacity through greening, including of towns and villages.

Policy 5: Enhance/ strengthen governance on climate change and empower more institutions to take up climate change adaptation, disaster risk reduction and mitigation measures.

Policy 6: Strengthen partnerships on climate change issues at local, national, regional and international levels.

Policy 7: Promote a human rights-based approach to all climate change actions.

3.3.4 Proposed Strategies

See **Appendix 5.**

3.4 Zones Côtières et Environnement Marin

3.4.1 Where We Are – Major Gaps/Needs

a) Flooding/ inundation, coastal erosion, and degradation of infrastructure.
b) Use of High-Water Mark (HWM) as delimitation is not appropriate and needs to be reviewed.
c) Lease of *"campement"* and hotel sites on Pas Géométriques, up to the HWM, leading to obstruction of public passage along the coastline and also lack of adequate buffer during extreme weather.
d) Inappropriate development within the coastal zone.
e) Not enough public spaces as only 14% of the coastline has been proclaimed as public beaches (47.9 km out of a total of 322 km of coastline).
f) No public coastal park for the education and leisure of the public.
g) Inadequate zoning of the lagoon.
h) Degradation of coastal ecosystems and islets.
i) Fragmentation of the management of the coastal zone.
j) Inadequate enforcement.
k) Insufficient baseline data.
l) Continuing damage to corals.
m) Carrying capacity of coastal zone being exceeded.

n) Coral bleaching.
o) Education – poor awareness of marine ecology leading to degradation.
p) Insufficient involvement of local community and traditional knowledge systems.
q) Weak Institutional and legal frameworks.
r) No scientific assessments of the negative impacts of in-lagoon aquaculture farms.
s) Not enough funding for NGOs to implement environmental/ sustainable development projects.
t) Inadequate coordination between relevant legal frameworks and Government bodies (e.g. National Development Strategy, Outline Planning Schemes, Ministries responsible for the subjects of Fisheries, Housing and Agriculture).
u) Insufficient community participation at coastal village level.
v) Lack of funds targeting the NGOs and community groups of the sector.
w) Coastal construction of buildings and infrastructure do not integrate climate change considerations in developing plans of buildings and infrastructure.
x) Lack of policies for the management of '*barachois'*.
y) Central Business District in major coastal villages should be demarcated and guidelines for development in these areas updated.

3.4.2 Long-Term Objectives/ Targeted Outcome

A coastal zone resilient to natural hazards, climate change and anthropogenic impacts, where a right balance is struck between our coastal ecosystems and development and where the right of the public to enjoy their natural heritage is protected and marine resources including biodiversity are preserved so as to allow the sustainability of livelihoods.

3.4.3 Proposed Policy Orientations

Policy 1: Use ridge-to-reef approach and enhance resilience of the coastal ecosystems to the impacts of natural hazards.

Policy 2: Ensure that livelihood and development in the coastal zone are sustainable.

Policy 3: Restore biodiversity in the coastal zone.

Policy 4: Preserve and enhance collaboration and commitment from all stakeholders acting in the coastal zone.

Policy 5: Improve education and awareness on the coastal zone at all levels.

Policy 6: Enhance resilience of the coastal zone to anthropogenic impacts.

3.4.4 Proposed Strategies

See **Appendix 6.**

3.5 Biodiversité et Ressources Naturelles

3.5.1 Where We Are – Major Gaps/Needs

Biodiversity, as a generic term, includes all forms of life on earth, whether native or alien to any particular area of the globe.

Agriculture in most places around the world, be it for food production, clothing or industrial use, largely concerns plants and animals introduced from other places. It is the same in Mauritius where sugarcane, tea, coffee, chicken or cattle are species imported from other countries. This biodiversity will have varieties or hybrids that have been developed for adaptation to particular environmental or climatic changes or for maximisation of production and is, therefore, very important since strains or varieties can become rarefied or lost. However, this introduced biodiversity may, from time to time, become detrimental to the area it has been introduced to by becoming invasive.

Likewise, several tree species, plantations and forested areas in Mauritius are made up of introduced species. Over time several of these introductions have become adapted to their local environment and are contributing to the production of important ecological services such as habitat for wildlife, soil stability, erosion control, water retention, carbon sequestration, shading and temperature cooling. Similar to agricultural plants, some tree species can become invasive and need special interventions to limit their negative impacts.

On the other hand, when one talks about threats to biodiversity, conservation status, biodiversity loss or damage to ecological functions and ecosystem services, we are generally referring to native biodiversity. Since they are localised to sometimes very restricted areas, this can be a matter of extreme concern. This is the case in Mauritius.

Increasingly, we are realising that biodiversity does not apply only to the list of species but refers to the natural, non-degraded ecosystems that host these species and that are functioning efficiently to provide a wide variety of services. Thus, biodiversity is an overarching concept

cutting across many themes and essential for food, rainfall, water supply, health, climate, recreation, leisure, economy and naturally and human wellbeing.

It must, therefore, be assumed that recommended policy orientations and strategies will deal almost exclusively with native biodiversity, except in cases where it has been shown that the presence of alien biodiversity is important and necessary for the survival and welfare of native species.

a) Deforestation and loss of biodiversity e.g. (i) Loss of half the stems of native trees within protected areas, (ii) a lower density and diversity in studied groups in native invaded areas in protected areas (e.g. butterfly, land snails, flowering plants, orchids) (iii) sharp decline of endemic insectivore bats in the last 20 years.
b) Loss and/or decline of certain types of ESAs, including wetlands, caves, coral reefs, sand beaches and dunes, with resultant negative impacts on the tourism industry.
c) Inadequate or lost buffer zones for rivers, mountains, coastal area 30 m no-development zone, wetland protection and restoration, all impacting severely on the resilience of the country to extemporaneous forces such as cyclones, sea level rise, global warming, etc.
d) Loss and decline of different biodiversity levels [e.g. genetics (some genetic varieties going locally extinct), species, community and ecosystems].
e) Decline in ecosystem services (e.g. water, pollinators, etc.).
f) Insufficient green areas or spaces in urban areas, increasing disconnection of the community with nature.
g) Insufficient awareness on the importance of conservation of biodiversity.
h) Limited participation of the private sector in conservation of biodiversity.
i) Inadequate funding, compensation measures, fiscal incentives for the engagement of private sector in biodiversity conservation/ protection.
j) Absence of awareness on the possibility of voluntary protected conservation areas on private land and benefits thereof.
k) Inadequate enforcement of legislation regarding biodiversity preservation and conservation.
l) Inadequate expertise and human resources for biodiversity preservation and conservation.
m) Conflicting mandates between food production and biodiversity conservation in the present institutional set-up.
n) Lack of transparency regarding the use of 'green taxes'.
o) Few studies on the impact of climate change on the loss of biodiversity in Mauritius, mostly paleo-ecological.
p) Limited accessibility to existing data and information on biodiversity conservation issues (Information not easily available because data is either fragmented among institutions or sources are not available online. Baseline data needs to be standardised).

q) Limited long-term monitoring mechanism on biodiversity.
r) Ongoing increase of invasive alien species and potentially invasive alien species responsible for the loss of biodiversity and changes in ecosystems services.
s) Economic valuation of biodiversity is not integrated in the decision-making process.
t) Natural capital is not recognised as an economic and social asset.
u) Absence of performance standards for the preparation of EIA and subsequent monitoring programmes.

3.5.2 Long Term Objectives/ Targeted Outcome

- Effective conservation, sustainable use and restoration of native biodiversity and its ecosystems in line with national and international commitments, increasing resilience and adaptation.
- Healthy, well-functioning and resilient ecosystems providing economic, social and environmental benefits.
- A society in which all stakeholders including the public, authorities, public and private sectors and NGOs take on board the valuation of ecosystem services and functions and are active in biodiversity conservation, and whereby all institutions are empowered to mainstream biodiversity into decision-making, including natural capital accounting and in line with the SDGs.

3.5.3 Proposed Policy Orientation

Policy 1: Ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation, and any legitimate loss of ecosystems services be compensated accordingly, using SEA and natural capital accounting.

Policy 2: Increase awareness, participation and engagement of stakeholders at all levels for the protection of biodiversity conservation.

Policy 3: Improve, coordinate and harmonise institutional and legislative frameworks, as well as enhance accountability and transparency, and ensure effective enforcement of biodiversity conservation.

Policy 4: Provide financial support and fiscal incentives to private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity.

Policy 5: Promote research and collection of baseline data, and ensure access to such data to support evidence-based policy and management of biodiversity.

Policy 6: Secure existing biodiversity conservation areas and create new ones across the Republic of Mauritius.

3.5.4 Proposed Strategies

See **Appendix 7.**

3.6 Lutte Contre La Pollution

3.6.1 Where We Are – Major Gaps/Needs

a) "*Incivisme généralisé*" (irresponsible behaviours such as littering in drains, canals, roadsides, etc., dumping on bare lands, abandoned/ wreck vehicles, noise pollution from bungalows/ wedding halls, loud music in residential areas, smoke and odour nuisances arising from food preparation in residential and public areas, and insufficient bins).
b) Inadequate legal framework to address pollution at all levels.
c) Unsustainable environmental practices in agricultural and industrial sectors.
d) Incompatible/ bad neighbourhood activities resulting in odour, flies and other sanitary nuisances arising from small-scale rearing of animals in residential zones and growing industrial development near residential areas.
e) Inadequate enforcement capacity.
f) Fragmented approach to pollution control.
g) Persistent pollution from vehicles (buses, trucks, motorcycles, etc.).
h) Poor communication between the public sector, private sector and NGOs.
i) Insufficient continuous monitoring of water courses from source of pollution to end recipient (from upstream to downstream).
j) Scarcity of sites for disposal of e-wastes, batteries, construction and bulky wastes.
k) Absence of sewer networks around the coastal region and at places where water tables are high.

3.6.2 Long Term Objectives / Targeted Outcome

A healthy environment for the wellbeing of a society, in which the public in general and undertakings are compliant to environmental standards, adopt best environmental practices

including cleaner approaches, and whereby they are accountable for their actions for a cleaner, greener and safer Mauritius.

3.6.3 Proposed Policy Orientations

Policy 1: Strengthen and harmonise policies and legislative and institutional frameworks and enforcement on pollution prevention and control.

Policy 2: Holistically address pollution in air, noise, water and land for the wellness of citizens.

Policy 3: Limit bad neighbourhood activities and enhance mitigating measures.

Policy 4: Inculcate environmentally-responsible behaviour at all levels, including public and private sectors as well as the general public.

Policy 5: Build resilient, inclusive and sustainable industrialisation in line with SDGs 9 and 12.

3.6.4 Proposed Strategies

See **Appendix 8.**

3.7 La Gestion des Déchets

3.7.1 Where We Are – Major Gaps/Needs

Solid wastes generation is a major issue worldwide and Mauritius is no exception. The solid waste sector has made some significant strides over the past 30 years with the closure of open dumps since the 1990s and the development of transfer stations and a sanitary landfill at Mare Chicose. Since its operation in 1997, the Mare Chicose landfill has been ensuring a continuous disposal of solid wastes in an environmentally safe and sound manner while also protecting human health. Over 9 million tonnes of solid wastes have been landfilled since 1997, with 509,085 tonnes of wastes landfilled in 2020. However, the landfill is reaching saturation by May 2020 as per current design and there is no additional land available for development of new landfill site. Recently, an EIA licence has been granted for the vertical expansion of the Mare Chicose landfill.

While landfilling has been ensuring an environmentally safe and sound management of solid wastes in Mauritius, it is not a sustainable approach. In this context, a shift towards a circular economy approach is being envisaged in line with target 12.5 of the United Nations SDG 12 on

"Sustainable Consumption and Production". The proposed policy orientation aligns with the concept of circular economy which prioritises resource recovery and recycling. The different policies proposed ensure a sustainable and integrated solid waste management in Mauritius in line with the waste management hierarchy. For each policy, several strategies are proposed to achieve the targeted policy.

a) More than 500,000 tonnes of solid wastes generated annually, most of which are disposed at the Mare Chicose landfill.
b) Disposal capacity at the landfill is decreasing continuously and there is no additional land available for development of new landfill site. An EIA licence has been granted for vertical expansion of the Mare Chicose landfill.
c) Vertical expansion of the Mare Chicose landfill will increase its lifetime by at least 10 years.
d) Cost of solid wastes management currently amount to Rs1.5 billion per year and the waste collection service is free of charge.
e) There is no segregation of wastes at source and this is not required by law.
f) Lack of sufficient public responsibility/ civic sense and lack of continuous awareness raising to change mentality and perception about solid wastes.
g) Presently all leachates from Mare Chicose Landfill site are carted away by private carriers to the Roche Bois Wastewater Pumping Station.

3.7.2 Long Term Objectives / Targeted Outcome

- Reduction in the quantity of solid wastes requiring disposal and increasing the lifespan of the Mare Chicose landfill.
- Shifting towards a circular economy to enhance resource recovery and recycling and reducing pressure on the landfill.

3.7.3 Proposed Policy Orientations

Policy 1: Prevention and environmentally responsible consumption.

Policy 2: Shift in the solid waste management system from a linear approach to a circular economy with focus on resource recovery and recycling.

Policy 3: Safe disposal of wastes through the provision of adequate disposal infrastructure.

Policy 4: Tapping the energy recovery potential of solid wastes.

3.7.4 Proposed Strategies

See **Appendix 9.**

3.8 Contrôle des Déchets Plastiques

3.8.1 Where We Are – Major Gaps/Needs

a) Littering and dumping, causing blocking of drains, eyesores, marine pollution and bioaccumulation in food chain.
b) Plastic bags, straws, stirrers, plastic bottles and caps, cups, bowls, trays, grocery bags, lids, and foam take-away containers are perceived as the most problematic single-use plastics, given their wide presence in the environment, causing eyesores, blocking of drains/ rivers and ending into the ocean.
c) Inadequate legislation and enforcement for control of plastic products (no adequate resources to carry out policy and enforcement actions).
d) Insufficient knowledge on types/ characterisation of plastic products.
e) Low level of waste segregation, improper design of bins and inadequate collection facilities to promote reuse/ recycling.
f) Lack of transparency on the use of levies collected on plastic products.
g) Inadequate sensitisation on plastic products, their negative impacts, available alternatives and use of existing collection facilities.
h) High cost of alternatives leading to abusive use of low-cost plastics.
i) Lack of regulatory impact assessment of the measures.
j) Lack of fiscal incentives to shift to biodegradable products, to upscale/ commercialise locally available raw materials for production of alternatives to plastics and to promote recycling.
k) Lack of research and development on local resources to be used as alternatives to plastics, including bio-plastics, and on local use of recycled products.
l) Insufficient research on impacts of micro-plastics and nano-plastics.

3.8.2 Long Term Objectives/Targeted Outcomes

To identify other problematic single use plastics that could be banned by 2030 and reduce the amount of plastic waste entering the environment, ensuring circularity, and adopting sustainable consumption and production practices in line with SDGs 3, 12 and 14.

3.8.3 Proposed Policy Orientations

Policy 1: Strengthen the regulatory and institutional frameworks for the control of plastic and promotion of alternatives including assessing the impact of new regulations.

Policy 2: Promote reuse and recycling in the plastic economy.

Policy 3: Encourage continued sensitisation and awareness raising on plastic issues.

Policy 4: Support research and development on plastics, its impacts and sustainable alternatives.

3.8.4 Proposed Strategies

See **Appendix 10.**

4.0 SPECIFIC POLICIES AND STRATEGIES

During the "*Assises de l'Environnement"*, it was proposed to further analyse several specific environmental issues that are complementary to the Overarching Policies and Strategies and to the Thematic Areas Policies and Strategies. These specific issues are listed below: -

(i) Sustainable Development;
(ii) Strategic Environmental Assessment;
(iii) *Observatoire de l'Environnement;*
(iv) Circular Economy and Waste Management;
(v) Plastic management ;
(vi) Environmentally Sensitive Areas;
(vii) Oil Spills and Environmental Emergencies;
(viii) Enforcement Strengthening and Compliance Mechanisms; and
(ix) National Environmental Laboratory.

These policies and strategies sometimes cover the same topics or resemble environmental issues examined during the "*Assises de l'Environnement*". For example, Plastics and Waste Management are found in both lists. Moreover, one can point out the similarities between "*La culture environnementale*" and Sustainable Development, between "*Biodiversité et ressources naturelles*" and "*Zones côtières et environnement marin*", and between Environmentally Sensitive Areas and Oil Spills and Environmental Emergencies. The remaining issues, that is, "*Observatoire de l'Environnement*", Enforcement Strengthening and compliance Mechanisms and National Environmental Laboratory are institutional concerns that will underpin the other thematic areas and specific issues and help the ROM move onto "*la transition écologique*".

It was felt that a further analysis would:-

- provide more complete information on the issue;
- allow for the development of specific policy and strategy as well as an action plan for the short- and long-term periods;
- provide recommendations to update the EPA; and
- provide recommendations to adapt the institutional framework of the MESWMCC.

4.1 Sustainable Development

4.1.1 Where are we and what are the major gaps?

The SDGs adopted in 2015 by the 193 Member States of the UN General Assembly are a collection of 17 interlinked global goals designed to be a "blueprint to achieve a better and more sustainable future for all". Agenda 2030 is a soft law. It is not mandatory but it addresses concerns well known to every Government. These have to be viewed and analysed with a new mindset based on a systemic and multi-level approach that will move the traditional silo approach to an integrated and coherent issue-based one. One of the recommendations from the consultations for the review of the EPA was to adopt an institutional and legislative framework on SD.

Mauritius does not have a Sustainable Development Act. The current EPA includes limited provisions on sustainable development. For example, section 10 of the EPA makes provision for the establishment of a **National Network for Sustainable Development**, which acts as a forum for discussions and consultations on selected matters. The EPA also establishes various Committees that facilitate transparency and stakeholder involvement in the decision-making processes. However, there are neither structural requirements for Government/ Departments or agencies to establish their approach to their functions/ tasks related to specific sustainable development requirements, nor any provisions on their reporting or accountability.

As such, the EPA does not contain a framework or provisions for SD. Developing a Sustainable Development Framework, independent of the EPA, is thus proposed instead of combining Sustainable Development provisions with the current EPA which comprises limited provision on SD, different from the social, economic and governance considerations that are key to sustainable development.

4.1.2 Targeted Outcomes

- Establish the building blocks of sustainable development governance in legal and institutional frameworks.
- Initiate a domino effect across all levels of Government, the private sector and communities and citizens to facilitate the *"transition écologique"*.

4.1.3 Policy Orientations

Two sequential steps are recommended regarding furthering Sustainable Development in the ROM. Firstly, amending the EPA to include provisions supporting sustainable development is a short-term initiative, and secondly, developing a Sustainable Development Framework which is a more comprehensive and structural approach although a longer-term initiative. Both the short

and the long-term initiatives require institutional framework adjustments and the adoption of strategies and action plans.

Short-term

(a) Legal Framework

- Integrate general principles of environmental management and sustainable development as well as specific principles that pave the way towards green transition in the EPA.
- Revamp the NEC into National Environment and Sustainable Development Commission.

(b) Institutional Framework

- Review current mandate of the SD in line with new tasks related to SD and adopt a comprehensive work plan to:
  - Implement a SD communications strategy;
  - Support the National Environment and Sustainable Development Commission; and
  - Establish a national level SD coordination.

Long-term

(a) Legal Framework

- Adopt a Sustainable Development Framework (independent of the EPA) and related Regulations throughout the Government of the ROM.
- Review current mandate of SD Division in line with new tasks related to SD.

The Framework would ensure that roles and responsibilities of Ministries and Government agencies are clearly demarcated in the pursuit of Sustainable Development.

4.2 Strategic Environmental Assessment

4.2.1 Where are we and what are the major gaps?

Strategic Environmental Assessment (SEA) consists of a range of analytical and participatory approaches that aim to integrate environmental considerations into policies, plans and programmes and evaluate the inter-linkages with economic and social considerations[7]. It is consistent with the adoption of policies and legislations to further sustainable development that encompass a whole of Government approach.

The SEA is an example of a framework that can facilitate the study of potential environmental impacts through programmes, plans and policy evaluation, thus, ensuring the sustainability and protection of the environment. Unlike an EIA, which evaluates the impacts at the project scale, a SEA allows for a long-term and more holistic view of environmental effects by incorporating environmental consideration into policies, plans and programmes right from the planning stage[8].

There is currently no SEA framework in place in Mauritius. Part IV of the EPA regulates the EIA. A strategic EIA was previously catered for under Part C of the Fifth Schedule of the EPA. However, following amendments to the EPA in 2008, Part C of the Fifth Schedule was repealed.

The challenges for the effective implementation of strategic EIA were at the level of the MESWMCC, namely: -

(a) limited information, institutional resistance and jurisdictional overlap;
(b) difficulties in defining and ensuring effective involvement of public participation; and
(c) coordination and integration of strategic assessment with other assessment processes.

Currently, two Divisions are responsible for the EIA process at the level of the MESWMCC:

- the **Environmental Assessment Division** has the overall *ex-ante* responsibility of processing applications for EIAs; and
- the **EIA/PER Monitoring Division** conducts the *ex-post* responsibility of monitoring undertakings for which the EIA licences and PER approvals have been granted.

[7] OECD, 2006. Applying Strategic Environmental Assessment: Good Practice Guidance for Development Co-operation. https://www.oecd.org/dac/environment-development/applying-sea-good-practice-guidance.htm

[8] Dennis Victor, P. A. (2014, August). Policy trends of Strategic Environment Assessment in Asia. *Environmental, Science & Policy*, pp. p.63-76.

4.2.2 Targeted Outcomes

The main rationale for applying SEA is to help create a better environment through informed and sustainable decision-making. SEA helps to ensure that many of the environmental issues of global importance are considered in policies, plans and programmes at different administrative levels (national, regional and local). These include for example, climate change, acidification, and energy use[9]. The expected outcomes are the following: -

- environmental protection plans that are better suited to territory realities;
- early consideration of potential impacts (Precautionary and Preventive Action Principles), including cumulative and synergistic impacts that are often difficult to identify at low tiers/ project level;
- better consideration of alternatives;
- enhancing the accountability and the efficiency of strategic decision-making (clear and verifiable procedures/ independent review); and
- stakeholder involvement for more transparency and better governance.

4.2.3 Policy Orientations

Short-Term

a) Legal Framework

Amend the EPA to include provisions for SEA.

b) Institutional Framework

- Establish a new SEA/ EIA/ PER combined division within the MESWMCC and increase access to external expertise.
- Prepare a Guidelines for SEAs for programmes, policies, plans and land-use planning.
- Evaluate training needs for staff and initiate training programme.

[9] Fisher T.B. (2003) Strategic Environment Assessment in modern times, in: Environmental Impact Assessment Review 23(2): 155-170.

Long-Term

(a) Institutional Framework

Establish an independent SEA/ EIA Division (in the Department of Environment. The PER Division would remain as an independent Division).

4.3 Observatoire de L'environnement and National Youth Environment Council (Science to Policy)

4.3.1 Where are we and what are the major gaps?

Evidence-informed policymaking can be defined as a process whereby multiple sources of information, including statistics, data and the best available research evidence and evaluations, are consulted before making a decision to plan, implement, and (where relevant) alter public policies and programmes[10]. An important component of evidence-informed policymaking is the establishment of an "*Observatoire de l'Environnement*" to store, collect environmental data and communicate it broadly.

In addition to an "*Observatoire de l'Environnement*", a Citizen Science Council is an important source of information for many Governments. Aided by the internet, the popularity and scope of citizen science appear almost limitless. For citizens, the motivation is to contribute to ''real'' science, public information and conservation. For scientists, citizen science offers a way to collect information that would otherwise not be affordable. Citizen science covers a suite of innovative tools to enable the public to apply their curiosity and contribute their talents to science and technology (EPA, 2020).

There are currently no "*Observatoire de l'Environnement*", Science to Policy Platform, or Citizen Science Council in Mauritius. Part of the broader discussion on science to policy is the element of the active involvement of youth in the debate, decision-making process, and implementation of issues of environment and sustainable development. Considering this objective, the Government established the National Youth Environment Council (NYEC) reporting to the Prime Minister's Office, in 2020.

[10] OECD, 2020. Building Capacity for Evidence-Informed Policymaking (Lessons from Country Experience)

4.3.2 Targeted Outcomes

- Policies, measures and solutions for the complex environmental problems are based on evidence and on an interdisciplinary approach. They are supported by an expert advisory body.
- The capacity to anticipate environmental trends and future policy needs is enhanced by a better understanding of the nature, severity, and causes of environmental degradation.
- Decision-making is underpinned by access to a repository of environmental data, an active environment data collection centre and a source of environmental information.

4.3.3 Policy Orientations

Short-Term

(a) Legal Framework

Amend the EPA to create: -

- an "*Observatoire de l'Environnement*";
- an "*Observatoire de l'Environnement*" National Committee; and
- a Science to Policy Platform.

(b) Institutional Framework

- Establish an "*Observatoire de l'Environnement*", a Citizen Science Council, a Science to Policy Platform, an *Observatoire de Recherche sur l'Environnement* (UoM) and other platforms (short-term).
- Establish an "*Observatoire de l'Environnement*" National Committee.
- Develop a cooperative arrangement with Réunion Island to establish a joint environment Observatoire, building on the French environment Observatoire network.

Long-Term

(a) Institutional Framework

Co-locate the "*Observatoire de l'Environnement*" with the UoM to access a wider range of expertise, develop cooperative environment projects with academia and the private sector, and foster innovative research.

4.4 Circular Economy and Waste Management

4.4.1 Where are we and what are the major gaps?

The circular economy can be defined as a system of economic exchange and production which, at all stages of the product life cycle (goods and services), aims to increase the efficiency of the use of resources and reduce the impact on the environment. It is about doing more and better with less[11].

Circular economy is particularly important in SIDS due to their remoteness, scarcity of land and access to appropriate technologies as well as challenges resulting from economies of scale for waste management including recycling. The capacity of SIDS to safely manage and dispose of toxic and polluting substances is under pressure from growing populations, rapid development and increasing numbers of imported goods, much of these from the tourism sector.

Waste management is challenging for SIDS due to their high per capita infrastructural costs, remoteness, narrow resource bases and high dependence on tourism. To date, limited waste disposal space, under-developed infrastructure, lack of Regulations and poor enforcement, barriers to moving waste from one country to another, and limited recycling opportunities due to the economies of scale have stalled progress on sustainable waste management in most SIDS[12].

Mauritius currently has a linear waste management system built primarily on the collection and landfilling of wastes. Mauritius does not presently have a circular economy strategy nor is there

[11] Abington Advisory, EVEA, 2016. Étude descriptive et opérationnelles sur l'économie circulaire à l'Île de la Réunion. Nexa Agence Régionale de développement d'investissement et d'innovation.

[12] Fuldauer et al, 2019. Participatory planning of the future of waste management in small island developing states to deliver on the Sustainable Development Goals. Journal of Cleaner Production, vol 223, 2019.

mention of a circular economy in the current legislation. However, it has developed a Solid Waste Management and Resource Recovery Strategy and has taken some initiatives to promote the implementation of a circular economy. The EPA defines waste as solid waste other than hazardous waste, clinical waste and pharmaceutical waste. Notwithstanding certain Regulations to address issues related to collection, disposal, reduction and control of certain categories of waste, Mauritius has no principal legislation on the subject of waste management in its entirety.

4.4.2 Targeted Outcomes

- The value of the materials that circulate within the economy is maximised.
- Material consumption is minimised especially virgin materials, hazardous substances, and waste streams that raise specific concerns (such as plastics, food, electric and electronic goods).
- Waste generation is prevented.
- Hazardous components in waste and products are reduced.

4.4.3 Policy Orientations

Short-Term

(a) Legal Framework

- Amend the EPA to introduce general provisions relevant to a circular economy such as: -
  - Introduction of a disposal fee for industrial and commercial wastes at the landfill;
  - Waste segregation at source;
  - Obligating hotels, industrial and commercial sectors to segregate their wastes and to send organic wastes for composting and recyclable materials to recyclers;
  - Prohibition of specific wastes from landfills and transfer stations;
  - Implementation of EPR;
  - Setting-up of a construction and demolition wastes management system;
  - Recycling of used tyres and end-of-life vehicles; and
  - Sorting of waste at school level following an intensive sensitisation campaign.
- Amend the EPA to introduce specific penalties for offences related to hazardous wastes.
- Develop an Integrated Waste Management Act to cater for all components of solid and hazardous waste management with a focus on circular economy.

(b) Institutional Framework

- Establish a new Circular Economy Unit within the Solid Waste Management Division.
- Evaluate the training needs for staff and initiate training programme.
- Short-term priorities.

    - Technical
        - Carry a feasibility study to identify ways to manage hazardous wastes[13] (on-site/ offshore treatment, chemical, incineration, ozonation or others).
        - Keep an up-to-date GIS database on pollution and wastes sites.

    - Demand-side
        - Develop and implement a "*culture environnementale*" campaign to raise citizen's awareness regarding the collection and recycling of wastes.
        - Encourage and empower companies in playing an active role in reduction, reuse and recycling.
        - Initiate concerted sensitisation actions and enforcement activities together with the *Police de l'Environnement* and the Health Inspectorate Cadre of Local Authorities to curtail pollution.
        - Encourage Local Authorities to collect waste before it reaches the seashore.

    - Policies
        - Finalise and implement the SWM strategy.
        - Develop and implement sustainable consumption and production in Government.
        - Develop financial incentives for recycling (deposit/ refund, refundable tax), plastic (including PET bottles), single-use items and Styrofoam (see *chapter on* '*Contrôle des déchets plastiques'*).
        - Adopt a policy and develop measures to facilitate composting in households and in the private and public sectors.

[13] Ideally in a circular economy, hazardous wastes are not put on the market: when hazardous wastes stockpiles exist and when an inflow of hazardous wastes still enters the market, temporary solutions have to be found to prevent health issues and environmental degradation. The EU has enforced REACh (Registration, Evaluation, Authorization and Restriction of Chemicals), a comprehensive legal framework that addresses all chemicals in use and requires companies that market chemicals to present a set of test data. However, it will take many years before REACh includes all the substances it intends to regulate. In addition, REACh does not fully cover the chemical content in articles that are imported into the EU.

- Initiate development and discussion of a regional cruise ship waste reduction regulation and other waste management and circular economy cooperative initiatives[14].

4.5 Plastic Management

4.5.1 Where are we and what are the major gaps?

In 2015, global plastic production was 8,300 million tonnes with wastes of 6,300 million tonnes out of which only 9% has been recycled, 12% incinerated and 79% accumulated in landfill or the natural environment. Moreover, 50% of plastics produced globally are meant for single use. Plastics issues also comprise micro plastics such as nano-plastics. The small particles, which are less than five millimetres long, come from sources such as clothing and industrial processes. When consumed by fish, the plastics do not decompose but instead disintegrate into smaller pieces. The nanoparticles accumulate in fish across their lifetimes and are eventually consumed by organisms higher up the food chain. The nano-plastics are also capable of absorbing toxins and pollutants in waterways, spreading them to the fish which ultimately consume them. Researchers have found that nano-plastics can permeate intestinal cell walls and pass from the digestive tract into the bloodstream. Instead of being excreted following consumption, they can accumulate in such vital organs as the gut, liver, kidney and brain. The accumulation of synthetic particles in these key areas has been linked to inflammation, oxidative stress, and immune response in animal studies and to the human body[15].

In Mauritius, it is estimated that more than 75,000 tonnes of plastic wastes (14% of wastes) predominantly composed of packaging (plastic bags, plastic bottles and food boxes/packaging) are landfilled annually. Only about 3,000 tonnes of plastic wastes are recycled (less than 4%), either locally or through export. Moreover, segregation is difficult and sorting plastic waste is a challenge. Some plastics are more difficult to recycle than others such as PVC, thermoplastics and E-waste plastics. A portion of the plastic generated is littered or leaked into the environment

[14] The Pacific waste management model comprises a hub and spoke components: the hub being the centre for coordination and recycling while the spokes are the locations from which wastes are collected. For Mauritius, Rodrigues and the outer islands would be the spokes and Mauritius the hub. This nonetheless does not preclude Mauritius from developing agreements with neighbouring countries to exchange and share services.

[15] The accumulation of nano-plastics in parts of the human body causes inflammation at tissue barriers and may damage or alter these barriers in ways that could contribute to the body's immune responses. For example, nano-plastics can interact with the blood-brain barrier, disrupting cellular function. There are a number of neurodegenerative disorders and conditions that are linked to the alteration of this barrier, including Alzheimer's disease, multiple sclerosis, stroke, and epilepsy and fertility disorders. https://www.tvo.org/article/how-a-fish-in-hamilton-broke-a-world-record-for-all-the-wrong-reasons

including on Mauritian lands, wastewater effluents and sewage sludge. The plastic recycling sector currently provides for some 250 direct jobs (Ragoobur, D. and Huerta-Lwanga, E. 2021). Expanding this sector requires high investments and is energy intensive.

The first Regulations on plastic bags were enacted in 2004. Subsequently, in 2015, Regulations banning the use of plastic bags and of non-woven polypropylene bags were promulgated. In 2019, a levy on non-biodegradable disposable plastic containers was introduced. The Environment Protection (Banning of Plastic Bags) Regulations 2015 was reviewed in 2020 and the Environment Protection (Banning of Plastic Bags) Regulations 2020 came into operation on 1 March 2021, with exceptions for bags designed for disposal of waste, agriculture, medical, sampling or analysis, packaging, and re-sealable bags with security tamper for liquids/aerosols for passengers. The 2020 Regulations banned plastic bags which were previously exempt under the 2015 Regulations, namely, transparent roll-on bags, transparent pocket type bags, bags carried by a passenger disembarking from an aircraft/ ship and bags manufactured for export. Recently, different proposed policies and measures are being analysed to facilitate the reduction of single use plastics imported into Mauritius. A new legislation on single use plastic products has been promulgated in July 2020 and came into operation on 15 January 2021. The MESWMCC has proposed a vision to address the plastics issue to achieve its goal of making Mauritius a plastic free country in the nearest possible delay.

4.5.2 Targeted Outcomes

- To prevent and reduce plastic pollution in the environment, including micro-plastics, by promoting the Circular Economy and addressing all the stages of the life cycle of plastics.
- To address land-based sources as well as sea-based sources focusing on both upstream and downstream activities and measures.

The MESWMCC has also proposed a series of actions to achieve this vision based on a rigorous framework, a regulatory approach when alternatives are available, partnership, financial incentives, Research and Development and technological development, circular economy, EPR, improved enforcement, sustainable consumption and production, eco-labelling and public education.[16]

Accordingly, the Plastic Management Division was created in January 2021 with the aim to implement measures and initiate actions to make Mauritius a plastic free country at the earliest possible. The Division, *inter alia*, carries out registration of importers/ manufacturers of biodegradable and exempt plastic bags/ biodegradable single use plastic products amongst

[16] S. Seewoobaduth, Plastic Free Mauritius conference, October 2021.

others, undertakes enforcement, develops innovative policy solutions and regulatory frameworks, and carries out education and sensitisation for increased awareness raising. Moreover, commissioning of research and studies on plastic products and alternatives are key components for improved design and disposal processes. It is proposed that in the long term, the Plastic Management Division be converted into a Plastic Management Department under the MESWMCC whose mandate would encompass a circular economy approach and tackling plastic pollution across the full lifecycle of plastics, from preventive measures in the upstream part of the lifecycle to downstream ones, in order to prevent plastic pollution in the marine and other environments and to support the goals outlined in the 2030 Agenda for Sustainable Development.

The new Solid Waste Management Strategy and Action Plan has been prepared and needs to be implemented promptly. It should focus on the establishment of waste management centres (civic amenity centres). It should also resolve the issues of the poor quality and limited quantity of plastic waste, high energy costs and limited markets to increase the rate of recycling and to make it a profitable business. Moreover, efforts towards public education are required to engage citizens and all stakeholders. Finally, the legal framework needs additional Regulations to address specific issues.

To coordinate implementation of the policies/ strategies and actions, a Steering Committee (e.g. Plastic Management Committee) should be set up with relevant stakeholders, including private sector and NGOs. Its roles would be to address the following issues: (1) introducing a roadmap and national strategy and action plan for plastic management; (2) achieve sustainable production and consumption of plastics, including the introduction of alternative raw materials; (3) knowledge and awareness raising; (4) enforcement at port/ airport and inland, monitoring and reporting; (5) research and development; (6) eco-labelling; and (7) clean-up and remediation activities.

4.5.3 Policy Orientations

Short-Term

(a) Legal Framework

- Continue efforts at the international level to develop international Conventions to regulate the life of plastic products, to reduce their impacts and to adopt EPR (discussions with WTO).
- Complete the comprehensive plastic pollution regulatory regime including:
  - Banning on the importation of problematic materials and specific petroleum-based single-use plastic items including Styrofoam.

- Adoption of a bonus-malus regulation to reduce over packaging including reducing packaging of food products (levies or tax breaks), deposit refund schemes, etc.
- Prohibition of the release of plastic balloons.
- Assessment of the impact of the new Regulations.

(b) Institutional Framework

- Develop a partnership with Réunion Island for the disposal of problematic plastics and other types of plastics when there is no capacity or expertise in Mauritius.
- Adopt a performance management, assessment and reporting framework to ensure continual progress in achieving a reduction of plastic pollution in the context of a circular economy (Provision for the performance assessment and reporting framework need to be included in the framework law).
- Mandate the "*Observatoire de l'environnement*" to monitor and report on the state of plastic pollution:
  - to establish a baseline of plastic pollution and to oversee progress made in plastic pollution reduction and the integration of wastes in the economy to support a circular economy.
  - publish periodic progress reports (2 years) on reduction of plastic wastes, recycling and revenue generation. Use this information for evidence-based policy development, to improve evaluation, to quantify priority wastes locally and develop effective and economically sustainable programmes of action.
- Create enabling conditions to encourage the manufacturing and use of alternatives to plastics, such as:
  - Implement a Refund Mechanism.
  - Provide funding to SMEs and solidarity organisations to develop and produce alternative to plastics with materials such as sugar cane, bamboo, paper and potato (consider making them tax-free).
  - Adopt green public procurement norms and practices at all levels of Government to reduce the purchasing of plastics.
  - Promote application-friendly product information, certification and labelling to advise citizens.
  - Promote and encourage drinking of tap water, which is safe and of good quality, thus, decreasing the purchase of plastic bottled water. In so doing there is a need to establish priorities and seek funding.
  - Sensitize citizens and businesses to the urgency of preventing plastic pollution within a framework to change the culture regarding the protection of the environment.

- Distribute reusable bags in all supermarkets and in the smallest stores.
- Distribute bins to collect recyclable, compostable and non-recyclable products to significantly increase collection rate.
- Assess the composition of various packaging wastes materials (plastics and others) to obtain an evaluation of potential revenues to support the collection and recycling system.
- Evaluate the gaps in equipment and technology to improve waste collection and recycling, evaluate compatibility with existing system and evaluate skills required for new equipment and ensure appropriate training.
- Develop a sampling and assessment programme to evaluate the presence and concentrations of plastic particles in various ecosystems and use the laboratory analysis to adjust policies and measures.

- Ensure proper enforcement of plastic waste legislation.

Long-Term

(a) Legal Framework

- Continue developing a comprehensive plastic pollution regulatory regime which includes: -
  - Banning of cosmetic products comprising micro-plastics;
  - Requirement for washing machines to be equipped with plastic microfibers filters; and
  - Elimination of single use plastic in hotels, textiles and in the food and drink sectors, including aquaculture (if elimination is not possible, ensure recyclability).

(b) Institutional Framework

- Assess the composition of various packaging wastes materials (plastics and others) to obtain an evaluation of potential revenues to support the collection and recycling system.
- Assess the development of local manufacturing and use of alternatives to plastics, adjust policies and measures and continue creating enabling conditions to encourage the manufacturing and use of alternatives to plastics.
- Continue the sampling and assessment programme to evaluate the presence and concentrations of plastic particles in various ecosystems and use the laboratory analysis to adjust policies and measures.
- Adopt a legislative framework to address all aspects of plastic pollution and to support a circular economy (in the EPA or in the Waste Management Act).

4.6 Environmentally Sensitive Areas

4.6.1 Where are we and what are the major gaps?

A 2009 study conducted in Mauritius on ESAs concluded that the latter are the natural and ecological assets of Mauritius providing direct economic and environmental benefits. A definition used in that context was "common zonal designations that aim to identify and delimit specific landscape features that require more stringent assessment of allowable use." The MESWMCC refers to ESAs as *´the natural and ecological assets of Mauritius providing direct economic and environmental benefits´*[17].

Mauritius, like most SIDS, is characterised by limited land resources, which are under increasing demands and intense pressures from multiple and competing uses as well as from climate change and extreme events. An emerging concern is that these cumulative pressures may lead to the land carrying capacity being exceeded. Land is intricately linked to freshwater and there may be tipping points where the degradation of both resources rapidly accelerates, threatening the island's habitability. To avoid this, there is a need to judiciously use available land resources and ensure proper physical planning and land-use management based on estimates of human carrying capacity and to embrace more sustainable consumption and production patterns[18].

In Mauritius, there is neither any enactment on ESAs nor any provision on such subject in any existing legislations, whereas provisions directly or indirectly relating to the framework concerning ESAs are scattered over many laws and Regulations. An overview of legislations relevant to the ESAs is provided in the 2020 UNDP interim report covering the fields or private and public property, environmental protection, inland water, coastal water, land and planning. However, Mauritius enacted laws for the protection and conservation of wildlife, natural parks and other reserved land (Wildlife and Natural Parks Act) and for the protection of forests, nature reserves and mountains (Forests and Reserves Act). In addition, in 2015, the Native Terrestrial Biodiversity and National Parks Act was adopted. This Act also includes the possibility of designation of private reserves (section 12).

According to the 2020 UNDP interim report, ´although fragmented, the existing legal framework relating to ESAs is already present in Mauritius´[19]. This legal framework resulted in a scattered

[17] Presentation on EPA, December 2019 workshop.
[18] UNEP 2014. Emerging issues for Small Island Developing States. Results of the UNEP Foresight Process. United Nations Environment Programme (UNEP), Nairobi, Kenya.
[19] UNDP (2020), 'Mainstreaming Biodiversity into the Management of the Coastal zone in the Republic of Mauritius´, p. 111.

institutional framework in dealing with various types of coastal and marine ESAs[20]. However, it is concluded that the existing complex legal and institutional framework in force in the ROM already covers ESAs and it would, therefore, be inefficient to make recommendations to break down this complex legal system as it would entail too many amendments which would take too much time to pass in the National Assembly. The report recommends, with the objective of sustainable management of ESAs, a streamlined coordination as the setting up of a new piece of legislation specific to ESAs or amendments to existing legislations would be too tedious.

4.6.2 Targeted Outcomes

- Storage capacity of watersheds and recharge capacity of groundwater aquifers are maintained and enhanced.
- Erosion and flood risk are reduced and resulting property damage minimised.
- Aesthetic and property values are protected.
- Fish and other wildlife habitat, unique vegetation and sites needed for education, scientific research and recreation are protected.
- Beaches, coastal zones and coral reefs are protected for the maintenance of their ecological values and for the livelihood of business and citizens.
- Pollution is prevented.

4.6.3 Policy Orientations

Short-Term

(a) Legal Framework

- Make use of conservation easements to protect ESAs.
- Revise the EPA to increase coordination amongst the different Ministries involved with the management and protection of ESAs.
- Amend the EPA to incorporate ESAs provisions taking into consideration proposed amendments for mangroves, corals and seagrass in the Fisheries Bill.

(b) Institutional Framework

- The ESA responsibilities to be assigned to the ESA Division.
- Create an ESA Committee.
- Formalise a list of ESAs including marine ESAs.

[20] Ibid.

- Provide staff with up-to-date training on ESA management.
- Explore and develop partnerships with international organisations to fund and manage ESAs.

Long-Term

(a) Legal Framework

- Amend the Native Terrestrial Biodiversity and National Parks Act to incorporate terrestrial ESAs into the network of protected areas.
- Amend section 8(1) of the Constitution to include 'environment protection' to allow the Minister of Housing and Land Use Planning to compulsorily acquire land for the protection of ESAs.

(b) Institutional Framework

- Develop, for all ESAs and buffer zones, a conservation strategy, an action plan and priority interventions measure for in-situ conservation.
- Adopt various measures to integrate ESAs into decision-making, including the EIA and the SEA processes, and into the land-use planning criteria.

4.7 Oil Spills and Environmental Emergencies

4.7.1 Where are we and what are the major gaps?

Most environmental legislations consider that environmental emergencies are events associated with the release of toxic substances into the environment, including oil from ships. They can be terrestrial and marine.

Toxic substances management policies are most often based on a preventive and on precautionary approach to deal with substances that enter the environment, which could harm the environment or human health. They include risk-based management strategies and strategies to deal with emergencies resulting from the release of toxic chemicals into the environment. This approach often includes requirements on emergency plans, information to the public and reporting.

Environmental emergencies in the marine context cover potential and actual pollution of the marine environment by oil or any other hazardous or noxious substance. These can originate from incidents from vessels, oil or chemical terminals, offshore activities, or unknown sources.

Marine ship-source oil spills can have significant impacts on both the environment and local coastal communities. Spills can occur as a result of accidents or operations, or from the intentional discharge of oily wastes into the water. Ships and vessels involved in spills can include oil tankers, bulk carriers, barges, fishing vessels and pleasure craft. Certain chemicals, referred to as hazardous and noxious substances, are also transported by ship. Similar to oil, these substances spilling into the marine environment can have significant impacts on both the environment and local coastal communities. Because many of the properties of hazardous and noxious substances are different from oil, response plans designed for oil spills are often ineffective for these substances.

Environmental emergency and spills situation that have arisen in Mauritius during the last five (5) years have been both terrestrial and marine. In case of a terrestrial emergency, for listed undertaking requiring an EIA Licence or PER Approval and involving risk of spill, conditions are imposed for the submission of a contingency plan. Furthermore, the Environment Protection (Industrial Waste Audit) Regulations 2008 make provision for the submission of contingency and emergency response plans for certain categories of industries, as listed in the First Schedule. For other undertakings not captured above, the Director of Environment has the authority to request for contingency plans under section 30(3) of the EPA.

The Department of Environment is not the first responder or on-site commander in case of a spill. Also, the level of severity of the emergencies varies from case to case. Therefore, defining the alert level requiring the on-site assistance of officers of the Department of Environment would reduce the delay in triggering an adequate response with the required equipment.

Marine

For oil spills, the Director of Environment has the power to direct the owner of a pollutant which is spilled to take actions. The Director's power is only applicable during or after a spill. The Director may also direct any person conducting an activity which may cause a spill to prepare a contingency plan or to amend an existing plan to his satisfaction.

The NOSCP 2003 provides for response to Tier 1 oil spills (spills of less than 10 metric tonnes). However, for spills greater than 10 metric tonnes, the NOSCP requires regional assistance and support from international organisations such as the International Maritime Organisation. Unfortunately, the Regional Coordination Centre initially planned to be set up in the year 2011, is still not operational.

Due to different international Conventions, the maximum compensation for an oil spill from a tanker is USD286 million and four times less for an oil spill from a bulk carrier, that is, USD65.17 million. A reduced compensation imposes greater economic losses and greater restoration costs to the impacted country.

Under its Ocean Economy Strategy, the vision of the Government is to transform Port Louis Harbour as an Indian Ocean Regional Bunkering Hub and to raise the bunkering activity to some 1.5 million tonnes by 2025. Previously, bunkering barge operators required only a Port licence from the Mauritius Ports Authority and a bunker trade licence from the Ministry of Commerce and Consumer Protection to carry out their activities. However, further to Government's decision in December 2020, all bunker barge operators have to secure an EIA licence as from December 2021 for bunkering activities to ensure that proper risk assessment, safe operations and prompt response in case of an oil spill. In this line, EIA applications are being processed at the level of the MESWMCC.

The EPA and the National Disaster Risk Reduction and Management Act are relevant in the context of environmental emergencies. It is to be noted that these Acts appoint different competent authorities that are responsible for their implementation. It is also important that the definitions and scope be well stated. Both Acts need to be streamlined so as to avoid duplication/ overlapping of responsibilities. The EPA provides for the preparation of a contingency plan under section 30(3), by "any person conducting an activity which may in the Director's opinion cause a spill". However, it does not provide further guidance on the contents of the plan.

4.7.2 Targeted Outcomes

- The capacity to protect citizens and the environment by preventing and reducing the frequency and severity of accidental releases of hazardous substances into the environment (land and air) as well as the capacity to deal with environmental emergencies that may occur and restore environmental conditions are enhanced.
- The capacity to protect citizens and the coastal environment by preventing spills and by responding efficiently with national capacity and when required with regional and international assistance, is enhanced.

4.7.3 Policy Orientations

Short-Term

(a) Legal Framework

Incorporate all the stages of the disaster (chemical/ oil spills), management cycle, namely Risk Reduction/Prevention, Mitigation, Preparedness, Response, Recovery and Reconstruction in the EPA and amend the powers of the Director of the Environment accordingly.

(b) Institutional Framework

Terrestrial

- Develop a National Spill Contingency Plan for both terrestrial and marine environment and establish a National Spill Advisory Committee.
- Define the alert levels according to the severity of the situation (for land and sea spills) requiring the degree of intervention required, locals or officers of the Ministry.
- Review and update, on a regular basis, both the Mauritius NOSCP and the regional coordination and intervention plans.
- Initiate negotiations to amend the international Conventions regarding compensation to obtain adequate payments for damages incurred by a spill.
- Assess and update the national and the regional oils spills response capacity.
- Evaluate training needs for staff and initiate training programme.

Marine

- Review and update, on a regular basis, both the Mauritius NOSCP and the regional coordination and intervention plans to ensure coherence between the national and the regional capacity and intervention in terms of:
    - risk assessment;
    - emergency management plans;
    - training programmes for Government staff and for Local Authorities;
    - management of reaction time and equipment[21]; and
    - preparedness.
- Initiate negotiations to amend international Conventions regarding compensation to obtain adequate payments for damages incurred by a spill. This is especially timely considering that Mauritius has decided to increase bunkering operations in Port Louis.
- Improve early warning surveillance capacity to indicate when a ship is off course and getting near the shoreline and coastal reefs.
- Determine the functions of the National Spill Advisory Committee:
    - Advise the Minister in the development of a National Spill Contingency Plan;

[21] An important consideration in risk management and emergency interventions is the reaction time and the intervention time. It is calculated with the following formula: *Emergency= risk x urgency (probability x damage) x (reaction time x intervention time)*. If the reaction time is slower than the intervention time i.e., the time you have before it's too late, the control of the situation is lost.

- Advise on the procedures for the cooperation and coordination among relevant authorities dealing with spill incidents to be included in the Plan, and
- Develop guidelines necessary to spill contingency planning.

- Determine the components of the NOSCP.
- Assess and update the national and the regional oil spills response capacity.

4.8 Enforcement Strengthening and Compliance Mechanisms

4.8.1 Where are the major gaps?

For any environmental legislation or regulation to be effective, appropriate and efficient enforcement and compliance[22] are required. The combined effect of enforcement and compliance results in the protection of the environment, the conservation of ecological services that benefit the community and the realisation of long-term economic advantages. Ideally, achieving compliance is preferred to having to enforce Regulations.

Mauritius has put in place a centralised system whereby the MESWMCC is the coordinating Ministry for environmental management. It is responsible for the setting up of inspection policies, plans and implementation. The EPA has made provision, under the Fourth Schedule, for Enforcing Agencies including Local Authorities, to cater for pollution in respect of different media as per their sphere of responsibilities.

However, there seems to be some discrepancies between what Local Authorities and other Enforcing Agencies are expected to do and what they believe they are obliged to do. There are also cases where there is overlapping of responsibilities. The roles and responsibilities of each Enforcing Agencies are not always clear.

[22] Enforcement is the range of procedures and actions employed by a State to ensure that organisations or persons, potentially failing to comply with environmental laws or Regulations, can be brought or returned into compliance and/or punished through civil, administrative or criminal action. Compliance is the state of conformity with obligations, imposed by a State on the regulated community, whether directly or through conditions and requirements in permits, licenses and authorisations.

4.8.2 Targeted Outcomes

- The environment legislation adopted by the ROM as rules for all its citizens, industry and Local Authorities is respected.
- Equitable treatment is provided to the regulated community.
- Deterrence is derived from an efficient compliance regime.

4.8.3 Policy Orientations

Short-Term

(a) Legal Framework and Institutional Framework

- Complete the array of EPA policies covered by adopting the nine (9) EPA priority proposals.
- Develop cooperative arrangements with citizens interested in environmental protection.
- Conduct a periodic performance audit of the '*Police de l'Environnement*' with the objective of improving performance and identifying underfunded areas.
- Evaluate training needs for staff and initiate training programme.
- Establish an IWA Division to implement the IWA Regulations.
- Add six (6) staff and related budget to the '*Police de l'Environnement*' to support enforcement activities related to three (3) of the nine (9) EPA new priority areas.

4.9 National Environmental Laboratory

4.9.1 Where are we and what are the major gaps?

As the scientific arm of the Ministry responsible for environment, the National Environmental Laboratory (NEL) monitors environmental quality to ensure compliance with prescribed environmental standards. The NEL performs a number of physicochemical and microbiological analyses to assess surface, groundwater and seawater quality and collaborates with other laboratories for monitoring, analysis and reporting. As an accredited laboratory to MS ISO/IEC 17025 Standards, the NEL also develops analytical methods to produce analytical results that can be used as evidence in court cases. Being the enforcing agency for air in Mauritius, the NEL also monitors ambient air quality via two fixed ambient air monitoring stations at Vacoas and Port Louis, an urban roadside fixed ambient air monitoring station at Rose Hill and mobile air quality

monitoring stations. Air quality monitoring is carried out across the island by the NEL in response to public complaints on air pollution.

The professionalism of NEL staff, capacity building and acquisition of state-of-the-art equipment have moved NEL from a basic laboratory to a high-tech laboratory that regularly cooperates with international organisations. Some of the recent and upcoming developments are the following: -

- Air Quality Index;
- Real time online monitoring system for surface and groundwater;
- Pesticide Residue Testing Unit;
- Plastic Monitoring;
- GIS Unit;
- Isotope Unit; and
- Sampling Unit.

4.9.2 Targeted Outcomes

- NEL is recognised as a benchmark in providing analytical services of technical competence. It is globally accepted and recognised for ensuring environmental protection and to support enforcement of the EPA.
- NEL is recognised as a dynamic key player in the protection against environmental disasters.

4.9.3 Policy Orientations

Short-Term

(a) Institutional Framework

- Continue investing in the state-of-art equipment and recruit specialised personnel as and when required.
- Develop a collaborative partnership with the UoM to access more expertise, guide cutting-edge research, train students in environmental laboratory techniques, foster innovative technologies and optimise laboratory investments.
- Develop a collaborative partnership with regional laboratories (Indian Ocean region) to access more expertise and enhance professional development through staff exchange and other approaches.

5.0 APPENDICES

Appendix 1: Range of Environmental Policy Instruments

"Command and control instruments" cover the following approaches: -

- Technology mandates, such as requirements regarding a production process implemented in the form of uniform technology standards (e.g. imposing the installation of a particular equipment abatement technology);
- Performance standards, whereby requirements are imposed such that the output from a process meets a certain criterion (e.g. maximum emission rates per kWh of electricity, energy efficiency standards for buildings or household appliances, fuel economy requirements for new cars, emission permits for large factories, etc.); and
- Various kinds of legislation for land use (e.g. for protection of vulnerable areas, licensing, protection of endangered species, quotas for fishing, and bans on the use of various toxic substances and so on).

"Economic instruments" comprise a broad set of various policy tools imposed to change consumers' and firms' behaviour towards addressing environmental issues, such as: -

- Taxes on environmental externalities, i.e. taxes either put directly on emissions or on an input, produced good or service closely associated with pollution (e.g. tax on plastic products or on carbon content in a fuel);
- Taxes on products for other purposes than environmental protection (which are mostly imposed to generate revenue), but which might also have positive environmental impacts, such as car sales tax and electricity consumption tax;
- Deposit-refund schemes where buyers pay a tax upon buying a product and then get a complete or partial tax refund when delivering the product for treatment when it ends up as waste;
- Subsidies for pollution reduction;
- Subsidies for renewable energy production and energy efficiency measures that aim to indirectly yield environmental benefits;
- Emissions trading, where a cap is set on total emissions and allowances are distributed for free or auctioned among emitters; and
- Charges put on sales of products to cover waste collection and treatment costs of products to ensure high collection and proper treatment.

"Environmental policy instruments" that do not entirely fit into the above-mentioned categories are often referred to as "soft instruments" (but also sometimes included in the economic instruments category) and include the following: -

- Information disclosure, including environmental labelling (e.g. certification of "green products" etc.) and public disclosure (e.g. rating of firms by the Government, information campaigns, etc.);
- Agreements such as negotiated agreements between industrial sectors and the Government to voluntarily reduce pollution to some agreed levels, conditional performance contracting (such as payment for ecosystem services) or agreements on services like waste treatment; and
- Others for instrument types that do not fit in the other categories (such as green procurement and sensitisation).

Appendix 2: Global Review of Best Practices

A. Nordic countries

Nordic countries comprise Denmark, Finland, Iceland, Norway, Sweden – as well as the Faroe Islands, Greenland and Åland. Building on rich resource endowments, including forestry, hydropower, petroleum, minerals and rich farmland, the Nordic countries have developed advanced industrial economies during the second half of the 20th century. The Nordics have marketed themselves as environmental front-runners since the 1970s, signalling, from an early stage, the desire to champion environmental sustainability on the international stage. For instance, Sweden organised the 1972 UN Conference on the Human Environment, and Norwegian Prime Minister Gro Harlem Brundtland's chaired the 1987 report on sustainable development, "Our Common Future". They have also successfully integrated environmental policy into the core of the "Nordic Model", which was backed by sectoral plans and a range of indicators as early as 1996 in Sweden and 2002 in Denmark. The Nordic Model is also characterised by high state capacity and preparedness for collective action. Given their global leadership position, Nordic countries have very ambitious plans within the environmental field. For instance, the Nordic Council of Ministers has published their vision of becoming the world's most sustainable and integrated region by 2030. To realise this, Nordic countries will focus on three strategic priorities extending to 2024 (an extract of which is spelt out below):

- "A Green Nordic Region – to promote the green transformation of our societies, and work for carbon neutrality and a sustainable, circular and bio-based economy";

- "A Competitive Nordic Region – to promote green growth in the Nordic economies based on knowledge, innovation, mobility and digital integration"; and

- "A Socially Sustainable Nordic Region – to promote an inclusive, equal and cohesive region with shared values, stronger cultural exchange and increased welfare".

Nordics have utilised various approaches and pursued a number of environmental policies to reach their front running position today. Examples of such measures/ approaches are listed below:

1. **Climate Change Act**

   All Nordic countries, except for Iceland, have ratified a Climate Change Act. In all countries, the Climate Change Act states that the country should become a low-emission society before 2050 except for Sweden, where the deadline has been set for 2045.

2. **Promulgation of a new Biodiversity Act and a Space Planning Act in Norway**
   The two legislations aim at reducing biodiversity loss and ensuring sustainable use of land and sea areas.

3. **Promoting innovation through the establishment of circular economy clusters**
   Denmark and Iceland have piloted new business models termed "circular economy clusters". In essence, these clusters sell and buy one another's by-products, including products formerly regarded as disposable waste. In this way, they all conserve raw material resource inputs, replace non bio-based resource inputs, and develop new joint products, including in the energy sector. Lessons learnt from the implementation of these clusters have highlighted the need for: -
   - new policy instruments which draw on open innovation and entrepreneurial methodologies;
   - dialogue between all levels;
   - a human approach that enables participants to bring a new paradigm of thinking into existence and have the courage to stand by it; and
   - entrepreneurial freedom to engage into trial and error.

4. **Promotion of low-carbon transport**
   - Transitioning away from traditional petroleum towards less carbon-intensive fuels.
   - Implementation of electric vehicle policies in Norway such as registration Value Added Tax, free parking, free charging, and road toll exemptions since 2012 (leading to Norway achieving the highest per capita share of Electric Vehicles (EVs) in the world, with EVs accounting for 60% of all vehicle sales).
   - Implementation of electric car technologies, batteries, charging infrastructure and fuel cells in Sweden.
   - Improvement in biking infrastructure, public transport facilities, promotion of trips by foot and setting target for such trips (with Copenhagen aiming to take ¾ of all trips by bike, foot or public transport by 2025), implementation of congestion charge for road transport (in Copenhagen), replacement of municipality vehicle fleet with hydrogen and electric cars (in Denmark).
   - Promotion of clean vehicles (biogas, ethanol, EVs) in Stockholm, with Sweden now having the world's highest utilisation of biogas from waste and wastewater as vehicle fuel.
   - Promotion of policies targeting all public transport to be powered by renewables (with targets of at least 20% of heavy vehicles running on renewables by 2020 in Norway and envisioning a car free Oslo by 2019).

- Promoting partnerships between cities and the business sector to use low-emission vehicles (e.g. Helsinki in Finland).

5. Encouraging renewables

- Setting up of renewable energy targets and national emissions reduction targets backed by law.
- Promotion of biofuels (which now represent over 25% of the energy supply in Finland, Sweden and Denmark).
- Promotion of wind power production, especially in Denmark (which is the world leader in this field), but also in Norway and Sweden, and increased generation capacity with further development of offshore wind farms and replacement of ageing turbines with more powerful ones.
- Promotion of bio-refinery initiatives through the combination of perennial crops and secondary crops with conventional crops for fodder and biomass, as well as for energy production (such as biogas in Denmark).

6. Promoting the greening of buildings through –

- Promotion of wooden building technologies and low-energy housing (in Sweden).
- Implementing strict building codes (with Denmark having the strictest building code in the world and Copenhagen even requiring buildings to comply with very strict energy standards ahead of national legislation).
- Requirements for carbon foot printing of building materials and building solutions (such as in Norway).
- Establishing eco-districts as clean technology demonstrator projects via PPPs.
- Establishing a Climate and Energy Fund to stimulate implementation of cost-effective measures such as solar panels, heat pumps and isolation.

7. Strict land use Regulations with proper spatial planning

- A large part of Danish territory is now under protection (e.g. general habitat protection, conservation orders, protection zones along coastlines, Ramsar sites, and bird protection directives covering all types of terrestrial ecosystems).
- 16% of Norway and 10.6% of Swedish territory are now protected as national parks and other types of protected areas.

8. Use of taxation to influence behaviour of both the industrial sector and the public

- Denmark has introduced taxes on ozone depleting substances, PVCs, packaging, water use, fertiliser use, use of nitrogen and phosphorus in agriculture, pesticides use, etc.
- Finland has introduced closed water systems in the manufacturing industry.

- Imposition of recycling fees on several products to finance their collection and treatment in Iceland.
- Combining high taxes with opportunities for tax rebates (e.g. Denmark has imposed high taxes on energy use, along with negotiated agreements with their industry sector to implement investments to improve energy efficiency in return for tax rebates).

B. Asian Countries

B.1 Japan

In the 1970s Japan shifted from the previous emphasis on economic growth to a greater emphasis on pollution prevention. In this regard, Japan proclaimed 14 environment-related laws, which led to a so-called 'pollution miracle', with a subsequent reduction in industrial pollution and improvement in meeting water quality and air quality standards. Japan's Environment Agency was established in 1971 and the "Basic Environment Law", which sets out basic principles and directions for formulating environmental policies, was enacted in November 1993. From 1994 to 2018, several action plans called "Basic Environment Plans" were adopted. The responsibility for implementing the plans rests with the Environment Agency and other Ministries concerned. Moreover, local Governments, corporations, citizens and other parties in society, are also expected to voluntarily and actively engage in activities which protect the environment in accordance with the Plans. Some of the relevant environmental policies adopted in Japan are as follows:

1. **Promotion of environmental management throughout the value chain**
   Companies are required to respond to environmental issues such as climate change and degradation of natural capital assets, not only within their own company, but also across their entire value chain (i.e. including their business partners). Companies are thus, encouraged to calculate and reduce emissions associated with their value chain, quantify and visualise reduction amounts and support the formulation of mid-term and long-term reduction targets. Introduction of environmental management systems are promoted (such as ISO 14001 and Eco Action 21 for small and medium sized enterprises) throughout the value chain.

2. **Switching to a sustainable lifestyle and consumption**
   To achieve a set 26% GHG reduction target by 2030, the Japanese Government is encouraging a so-called "Cool choice" campaign through sensitisation and promotion of

wise consumption patterns by favouring energy-saving/ low-carbon products, services and actions.

3. **Net-zero energy housing**

   In response to the Fukushima disaster in 2011 and a subsequent decision to decouple Japan's dependence on nuclear energy, the Japanese Government has approved an energy policy in 2014 that sets a goal for all newly constructed public buildings to be zero-energy by 2020 and all newly built houses to be zero-energy by 2030. This initiative is an energy-efficient and energy self-sufficient innovation where the amount of energy used is matched or surpassed by the amount of renewable energy created. Net-zero buildings are also resilient, providing energy and allowing life and business to continue even when power is suspended by natural disaster.

4. **Promotion of Eco-Disaster Risk Reduction**

   Japan has also adopted a policy of promoting Eco-Disaster Risk Reduction. In essence, this approach comprises an evaluation of the disaster risk reduction function of an ecosystem, and of conserving and restoring the relevant ecosystem functions (e.g. promotion of effective initiatives to conserve and restore wetlands which function as reservoirs to accommodate floods and to conserve diversified and healthy forests).

5. **Promotion of a walking and cycling culture**

   An attractive space/ environment is created, where more residents can move safely and comfortably on foot or by bicycle (this will reduce GHG emissions from transportation as well as benefit health and ease traffic congestion).

6. **Promotion of a workstyle reform by teleworking**

   Japan has promoted a work style reform through the introduction of teleworking and a flexi time system using ICT and promotion of paperless offices to reduce transport related CO_2 emissions and bring a decrease in paper consumption (this will also help to improve work life balance including childcare/ nursing as well as to enhance productivity). The target set by the Government was to increase the telework rate among companies to 30% by 2020.

7. **Strategic EIA**

   Since 2018, the Japanese Government announced that it would be implementing strategic environmental assessment to properly incorporate environmental considerations in policies and plans to be developed before deciding actual sites and scales of development projects.

8. **Responding to climate change**

   To mitigate climate change, Japan is promoting Carbon Dioxide Capture, Utilisation and Storage (CCUS) and artificial photosynthesis (that produces carbon compounds from CO_2 as a raw material). Regarding climate change adaptation, the approach is to promote technology development to enable prediction and evaluation of climate change and its impacts and to contribute to solving economic and social challenges.

9. **Support for business on environmental leadership development**

   Environmental leaders inside and outside companies are trained with a view to appropriately integrate environmental considerations into corporate management and generate new corporate values. Such environmental leaders are expected to have the capacity to tackle environmental management and environmental conservation, thereby, promoting greening economy and society.

10. **Creation of sustainable and attractive cities**

    - Realisation of compact urban space with neighbouring natural spaces, and promoting public transport networks contributing to the reduction of CO_2 emissions due to less traffic.
    - Promotion of the formation of an ecosystem network in urban areas through the construction of livable cities with green and blue (water) areas, and the conservation and creation of agricultural lands, parks, green spaces, waterways, non-concretised rivers (with sand and gravel), all of which could contribute to maintaining certain biodiversity in cities.

B.2 Singapore

Some of the environmental policies adopted in Singapore are as follows:

1. **Clean Air Policy**

   Singapore endeavours to maintain clean air by reducing emissions from industries and vehicles. The ambient air in Singapore is monitored through a 24-hour air quality monitoring network and a Pollutant Standards Index (PSI) has been developed. The air monitoring results are published online on an hourly basis.

   Singapore has adopted the World Health Organisation Air Quality Guidelines for several parameters as its air quality targets for 2020. To attain these air quality targets by 2020, abatement measures are being implemented to reduce emissions from vehicles and industries. For example, to reduce PM2.5 emissions from diesel vehicles, the main contributor to PM2.5 levels, stricter Euro V emission standards are mandated for all new

diesel motor vehicles since 1 January 2014. The air emission standards for industries and vehicles are reviewed regularly and benchmarked against major cities around the world.

2. Climate Change

(a) Adaptation in coastal zone

With regard to climate change adaptation, Singapore is focusing on its coastal zone, built environment and infrastructure, and flood resilience, while promoting research on adaptation. To protect the coastal zones, defenses against coastal erosion and flooding have been strengthened. Over 70% of Singapore's coastline is protected with hard structures such as seawalls and rock revetment. Singapore also plans to incorporate nature-based solutions such as active restoration of mangrove areas.

(b) Infrastructure

To safeguard key infrastructure, the minimum reclamation levels for newly reclaimed lands has been raised from 3 to at least 4 meters above the mean sea level since 2011. Roads near coastal areas have also been raised to protect them from rising sea levels. To protect the underground Mass Rapid Transit (MRT) stations from flooding commuters and the rail infrastructure, MRT stations with elevated entrances have been built or flood barriers have been installed.

(c) Enhancing flood resilience

Some key measures include the following:

- Since 2011, Singapore has spent 1.8 billion Singaporean dollars on drainage improvement works to boost flood resilience, with an additional 400 million Singaporean dollars funding towards upgrading and maintaining drains for 2019-2020.
- Investing in research to guide adaptation planning. The Centre for Climate Research of Singapore has launched, since 2019, a National Sea Level Research Programme over a five-year period to develop more robust projections of sea level rise.
- A new Climate Science Research Programme Office will also be set up to formulate, lead and drive efforts to build up climate science capabilities in Singapore.

(d) Mitigation: Early Fuel Switch

Since the 2000s, Singapore has progressively switched from fuel oil/ diesel to a less carbon intensive alternative, natural gas. Currently, 95% of its electricity is generated from natural gas.

(e) Pricing Carbon

Singapore is the first country in Southeast Asia to introduce price on carbon. A carbon tax was introduced in 2019 at Singaporean $5/tonne of CO_2-eq and there are no exemptions for covered facilities. The key aim of the carbon tax is to maintain a transparent, fair, and consistent price signal across the economy, incentivise emissions reduction across all sectors and support the transition to a low-carbon economy. The tax rate will be reviewed by 2023, with the intention of increasing it to a range between S$10 and S$15/tonne of CO_2-eq by 2030, taking into account international developments, the progress in mitigation efforts and economic competitiveness. The Singaporean Government has notified of their intention to spend more than an estimated S$1 billion in carbon tax revenue collected in the first five years to support projects that reduce carbon emissions.

(f) Improving energy efficiency in industry

The Singaporean industry sector accounts for more than half of its GHG emissions. Since 2013, an Energy Conservation Act has put in place enhanced requirements for large industrial energy users to measure and evaluate their energy performance. Singapore is targeting its industries to achieve an energy efficiency improvement rate of 1 to 2% per annum.

(g) Harnessing more solar power

In Singapore, solar energy is the most promising renewable energy option. To overcome the land constraints in Singapore, investments are being made in innovative solar technologies, such as floating solar photovoltaic systems on reservoirs and offshore. The aim is to reach 350 megawatt-peak by 2020 and at least two gigawatt-peak by 2030, which is enough to power around 350,000 Singaporean households a year, representing more than 10% of the peak daily electricity demand, and an energy storage deployment target of 200MW beyond 2025.

3. Enhancing the Built Environment

Singapore is aiming to make at least 80% of total building gross floor area green by 2030. To this end, a Green Mark Scheme was launched by the Building and Construction Authority (BCA) in January 2005 to promote resource efficiency and reduce any potential environmental impact in the built environment.

To enhance current efforts to green existing buildings, BCA and Singapore Green Building Council have collaborated to develop the Zero Capital Partnership scheme, which provides a "zero capital" solution for building owners to carry out energy efficiency retrofits for buildings. Furthermore, Singapore has notified its intention of developing new standards to promote super-low energy, zero-energy, and positive energy buildings.

4. **Harnessing resource synergies**

Singapore is working towards building a used water and waste treatment plant called Tuas Nexus by the year 2025, which can integrate water reclamation and waste-to-energy incineration in a single facility and reduce the amount of energy required in the treatment process of used water. This can help cut down carbon emissions by more than 200,000 tonnes a year.

5. **Promoting Public Transport**

Singapore aims for 75% of morning and evening peak journeys to be made using public transport by 2030 and at least 85% by 2050. To achieve this, Singapore's rail network will be expanded from 230 kilometres to 360 kilometres by 2030, enabling eight in ten households to be within a ten-minute walk of a train station, and 85% of public transport journeys of less than 20 kilometres to be completed within 60 minutes.

6. **Green Transport**

To help vehicle purchasers make more informed decisions, a Fuel Economy Labelling Scheme, which provides information on the fuel efficiency of each vehicle model, was introduced in 2018. A scheme was also introduced in 2013 to provide rebates for low-emission vehicles and levies surcharges for high-emission ones. An electric car-sharing programme was rolled out in December 2017 which aims at introducing 1,000 shared electric cars and 2,000 charging kiosks island-wide by 2020. In addition, 50 hybrid buses and 60 electric buses will be deployed by the first quarter of 2019 and by mid-2020 respectively, for trials.

7. **Walking and Cycling Plan**

"Walk Cycle Ride SG" is a vision to make walking, cycling, and riding public transport a way of life for Singaporeans. To help realise this vision, a Walking and Cycling Plan (WCP) was introduced for developments with high pedestrian and cyclist traffic. The WCP requires developers to ensure that their designs meet the needs of pedestrians and cyclists instead of catering mainly to vehicular traffic. It also provides for the building of ramps for barrier-free access. Further, developers are incentivised to provide bicycle lots and supporting facilities. In addition, more covered walkways are being constructed so that people can walk to train stations, bus interchanges and neighbourhood amenities comfortably regardless of the weather.

Launched in 2010, the National Cycling Plan (NCP) envisions cycling as an integral part of Singapore's transport system. Intra-town off-road cycling paths connected to major transport nodes and key amenities were constructed and bicycle parking facilities were enhanced in seven public housing towns. The NCP was revised in 2013 with more ambitious targets, namely, to provide every public housing town with a cycling path network and build an island-wide off-road cycling path network of over 700 kilometres by 2030. This is being implemented by giving greater priority to cycling in the transport system, enhancing cycling infrastructure, encouraging clear and consistent cycling rules and etiquette, and increasing community support for cycling.

8. **Development of Zero Waste Master Plan**

Singapore has adopted a Zero Waste Master Plan with the aim of achieving a sustainable, resource-efficient and climate resilient country. One of the targets of the Zero Waste Master Plan is to achieve a 70% overall recycling rate by 2030, which includes 81% non-domestic recycling rate and 30% domestic recycling rate. The three (3) priority waste streams are food waste, e-waste and packaging waste including plastics. Singapore has also enacted a Resource Sustainability Act which provides for a mandatory packaging reporting in year 2020 and an EPR for packaging, including plastics, by 2025.

B.3 India

1. **Environmental Rights within the Constitution**

The Constitution of India explicitly makes reference to the environment and environmental rights. The Constitution states the following: "*The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country*" and "*It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures*." Although critics have pointed out that these provisions are made in a section of the Constitution that is unenforceable, the principles laid down are nevertheless fundamental in the governance of the country and it is the duty of the State to apply these principles in making laws.

2. **Plastics**

With respect to plastics, India introduced a nationwide ban on single-use plastic products in October 2019. The goal is to make India completely free of single-use plastics by 2022. These include plastic bags and products used for eating and drinking, including cutlery, plates, cups and straws. It is worth emphasising that the State of Sikkim launched the ban

back in 1998, after heavy rain caused several major landslides in the area, following the blocking of drains due to plastic wastes.

C. Europe

C.1 European Union

In December 2019, the EU launched its Green Deal. This Green Deal focuses on making Europe climate-neutral and aims at protecting its natural habitat for the benefit of people, planet and economy. Some of the key areas of the Green Deal are as follows:

1. **Climate Neutral Europe**
   The EU aims to achieve a climate neutral economy by 2050 and be a global front-runner in climate friendly industries and clean technologies. A European Climate Law will be prepared to translate the political commitment into a legal obligation and act as a trigger for investment.

2. **Circular Economy**
   A new Circular Economy Action Plan is planned for March 2020. This will include a sustainable product policy to ensure use of less material and that products can be reused and recycled.

3. **Zero-pollution**
   The aim is to achieve a pollution-free environment with regards to air, soil and water by year 2050. It also includes a chemical strategy for a toxic-free environment.

4. **Ecosystems and biodiversity**
   A new biodiversity strategy will be developed in March 2020 with new measures to address the main drivers of biodiversity loss. This will include measures to tackle soil and water pollution as well as a new forest strategy.

5. **Farm to fork strategy**
   A new strategy aiming at a green and healthier agricultural system will be developed. This will include plans to significantly reduce the use of chemical pesticides, fertilisers and antibiotics.

6. **Transport**
   Electric vehicles will be further encouraged with an objective of deploying 1 million public charging points across Europe by 2025. Sustainable alternative fuels like biofuels and hydrogen will be promoted in aviation, shipping and heavy-duty road transport where electrification is currently not possible.

7. **Research & Development and Innovation**
   35% of the EU's research funding will be set aside for climate-friendly technologies.

8. **Green Infrastructure and Natura 2000 Network**
   EU has a policy of green infrastructure consisting of a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. The aim is to improve environmental conditions and, therefore, peoples' health and quality of life, support a green economy, create jobs and enhance biodiversity.

   The Natura 2000 is the main component of the EU green infrastructure. It is a network of core breeding and resting sites for rare and threatened species and some rare natural habitat types. It stretches across all 27 EU countries, both on land and at sea, and most of the land is privately owned. It is not a system of strict nature reserves from which all human activities are excluded. The approach is largely centered on people working with nature rather than against it. In this regard, Member States are required to ensure that the sites are managed in a sustainable manner, both ecologically and economically.

C.2 Portugal

Environmental Rights within the Constitution - The Constitution of Portugal generally makes provision for environmental rights as follows:

a) *"To promote the people's wellbeing and quality of life and real equality between the Portuguese, as well as the effective implementation of economic, social, cultural and environmental rights by means of the transformation and modernisation of economic and social structures"*; and
b) *"To protect and enhance the Portuguese people's cultural heritage, defend nature and the environment, preserve natural resources and ensure proper town and country planning."*

More specifically, Article 66 (Environment and quality of life) mentions the following: -

(i) *"Everyone shall possess the right to a healthy and ecologically balanced human living environment and the duty to defend it;*

(ii) *In order to ensure enjoyment of the right to the environment within an overall framework of sustainable development, acting via appropriate bodies and with the involvement and participation of citizens, the state shall be charged with:*

a) Preventing and controlling pollution and its effects and the harmful forms of erosion;
b) Conducting and promoting town and country planning with a view to a correct location of activities, balanced social and economic development and the enhancement of the landscape;
c) Creating and developing natural and recreational reserves and parks and classifying and protecting landscapes and places, in such a way as to guarantee the conservation of nature and the preservation of cultural values and assets that are of historic or artistic interest;
d) Promoting the rational use of natural resources, while safeguarding their ability to renew themselves and ecological stability, with respect for the principle of inter-generational solidarity;
e) In cooperation with Local Authorities, promoting the environmental quality of rural settlements and urban life, particularly on the architectural level and as regards the protection of historic zones;
f) Promoting the integration of environmental objectives into the various policies with a sectoral scope;
g) Promoting environmental education and respect for environmental values and assets; and
h) Ensuring that the fiscal policy renders development compatible with the protection of the environment and the quality of life."

C.3 Spain

1. Environmental Rights within the Constitution

Spanish environmental law is governed primarily by the Constitution (1978), specifying:

"(i) Everyone has the right to enjoy an environment suitable for the development of the person, as well as the duty to preserve it; and
(ii) The public authorities shall watch over a rational use of all natural resources with a view to protecting and improving the quality of life and preserving and restoring the environment, by relying on an indispensable collective solidarity."

2. **Natural capital accounting**[23]

The Spanish National Ecosystem Assessment (NEA) completed in 2012, provides the first analysis at national level that evaluates the ability of the Spanish ecosystems and biodiversity to maintain human wellbeing. It follows the initiative of the Millennium Ecosystem Assessment promoted by the UN. The aim of the economic valuation was to visualise the contribution that ecosystems and biodiversity make to human wellbeing, not only in ecological terms but also in economic terms. The economic valuation has taken into account the different types of services (provisioning, regulating and cultural) and the various methodologies to estimate economic values. It is the first nationwide ecosystem services economic valuation which also captures services outside conventional markets and include social and cultural aspects, for both use and non-use values.

Following the Spanish NEA, the Spanish Statistics Office periodically publishes the following accounts: -

(i) Air emissions accounts;
(ii) Material flow accounts;
(iii) Physical energy flow accounts;
(iv) Expenditure on environment protection;
(v) Environmental goods and services accounts;
(vi) Environmental tax accounts;
(vii) Waste accounts; and
(viii) Other accounts – water accounts (2007-2010) and forest accounts (1995-2000).

C.4 France

1. **Environmental Rights within the Constitution**

France has adopted an environmental charter and has incorporated it into the French Constitution. This has elevated to constitutional level not only the right to the environment and its protection but also a whole elaborate set of principles of environmental law.

[23] Natural capital accounting is a tool that can help measure the full extent of a country's natural assets and give perspective on the link between the economy, ecology and our environment. Since the UN Statistical Commission adopted the System for Environmental and Economic Accounts (SEEA) as a statistical standard for all countries in 2012, we now have a common methodology to measure a country's wealth as a combination of produced infrastructure, social and human natural resources which are also referred to as natural capital.

2. **'Observatoire de l'Environnement'**
   The '*Observatoire'* for the Environment, Territories and Agro-systems in France is dedicated to the experimentation, observation and analysis of natural environments. The '*Observatoire*' allows the study of the different entities of natural environments such as soils, sediments, waters, atmosphere, biodiversity and plant cover in agro-ecosystems. This '*Observatoire*' also comprises the National Biodiversity '*Observatoire*' which provides precise and documented information on biodiversity in France and its interactions with society.

   Furthermore, there is an '*Observatoire*' for Research on Biodiversity, an observation data center for research on biodiversity in order to document and understand the state and the dynamics, the underlying mechanisms and build scenarios for the future of biodiversity.

3. **The French '*Observatoire*' for Energy and Environment in Transport**
   Established in 2007, the task of the '*Observatoire*' is to assess emissions according to a common methodology. This assessment is used in the mandatory reporting of GHG emissions for transport services and others, as well as in producing eco-comparators. The assessments from the '*Observatoire*' are sent to public authorities to inform their decisions and provide reference data.

4. **'Observatoire national de la mer et du littoral'**
   The '*Observatoire'* for the Sea and the Coast collects and centralises various data related, among others, to the economic, social and environmental state of the coast and the sea. The data, used to build qualitative and quantitative indicators, are sourced from the monitoring of the coastal and marine environment. These data allow the understanding of the pressures acting thereon, the assessment of the overall management and exploitation of the marine environment and resources, and in formulating future policies.

C.5 Netherlands

A pilot study on Natural Capital Accounting was undertaken in the Netherlands, following which Statistics Netherlands and Wageningen University started a project in 2016 to develop a system of National Natural Capital Accounts. The goal is to quantify the size and development of goods and services from Dutch ecosystems. The indicator provides information on seventeen types of ecosystem services. This was the world's first national scale ecosystem services supply and use accounts developed in line with the UN System of Environmental Economic (SEEA) Ecosystem

Accounting methodology. It is expected that this project will facilitate a national ecosystem assessment, and natural capital-inclusive decision-making.

C.6 Scotland

1. **Natural capital accounting**
   Scotland was the first country in the world to produce a Natural Capital Asset Index (NCAI), which was first published by Scottish Natural Heritage (SNH) in 2011. The NCAI is part of Scotland's National Performance Framework and its inclusion reflects the high-level importance which the Scottish Government gives to the protection and growth of natural capital. The Scottish Government and SNH are exploring the possibility of using the NCAI model to forecast changes in natural capital that result from policy changes. Work is underway to strengthen the index such as by exploring the scope to include the marine environment in the NCAI.

2. **Strategic Environmental Assessment**
   In Scotland, all public bodies and some private companies are required to assess, consult and monitor the likely significant impacts of their plans, programmes and strategies on the environment. This process is known as Strategic Environmental Assessment (SEA) and incorporates the requirements of the SEA Directive (Directive 2001/42/EC) which is implemented via the Environmental Assessment (Scotland) Act. The Scottish Government published "Integrating an Ecosystems Approach into Strategic Environmental Assessment" in 2016.

C.7 United Kingdom

1. **Natural capital accounting**
   In 2011, the UK National Ecosystem Assessment (NEA) was released, closely followed by the Natural Environment White Paper, which outlined the Government's vision for the natural environment over the next 50 years. The UK NEA was the first analysis of the benefits of the UK's natural environment to society and economic prosperity (UK NEA, 2011). A number of changes to natural capital policy and management have since, been made.

2. **Conservative Environment Caucus**
   The Conservative Environment Network (CEN) is an independent membership organisation for conservative UK activists who support conservation and decarbonisation.

The CEN brings together thought leaders from business, politics and civil society to advance conservative environmentalism. CEN Members include parliamentary researchers, journalists, Councillors and students amongst others. CEN's Parliamentary Caucus drives the green conservative agenda in Westminster. They support actions -

- to enhance the natural environment - establishment of a new legal framework to halt and reverse the decline in ecosystems;
- to secure the future of rural areas – ensuring that public money is used to secure ecological gains for the benefit of the public;
- on climate change - leading the way not only in promoting adaptation but also in reducing GHG emissions;
- to promote clean growth - supporting Research and Development and investment in clean technologies for clean growth in the manufacturing industry;
- to build properly designed housing – promotion of housing that is fully compatible with preserving and enhancing the quality of the environment;
- to preserve species and oceans - ending the illegal wildlife trade, halting the annihilation of species and restoring the health of oceans; and
- tackle air pollution - promotion of electric vehicles, alongside active transport and increased planting of trees to tackle air pollution on roads.

3. **Embedding an 'environmental net gain' principle for development, including housing and infrastructure**

In the National Planning Policy Framework published in 2019, the UK Government has adopted a 'net environmental gain' principle for development with a view to enhance the delivery of environmental improvements locally and nationally, specifically with respect to effective land use and sustainable transport.

4. **Connecting people with the environment to improve health and wellbeing**

A series of activities is being considered to connect people with their environment, as given below:

- helping people improve their health and wellbeing by using green spaces, with consideration given onto how environmental therapies could be delivered through mental health services and promoting health and wellbeing through the natural environment;
- encouraging children to be close to nature, in and out of school, by helping primary schools create nature-friendly grounds and supporting more pupils contact with local natural spaces; and
- greening towns and cities, creating greener infrastructure and planting more trees in and around towns and cities.

5. **Increasing resource efficiency and reducing pollution and waste**
   In 2018, the UK Government published its Resources and Waste Strategy, which gives a long-term policy direction onto how the UK will preserve their stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy. This strategy outlines the UK's blueprint for eliminating avoidable plastic waste over the lifetime of a 25-Year Plan, doubling resource productivity and eliminating avoidable waste of all kinds by 2050.

D. Africa

Home to around 15% of the world population, countries within the African continent have often been considered, especially within many quarters of industrialised countries, as nations whereby environmental issues are not considered a priority due to resource limitations and governance issues. Nevertheless, several African States have successfully initiated and implemented environmental strategies and action plans during the last two decades to ensure that their growth and the exploitation of natural resources are results-oriented, climate resilient and sustainable.

D.1 Rwanda

1. **Banning of single-use plastic bags**
   In September 2008, Rwanda became one of the first countries in the world to introduce a total ban on plastic bags. These have since been replaced by biodegradable bags made from materials such as cotton, banana and papyrus. The country has harsh penalties for citizens possessing and carrying single use plastic bags and store owners who stock them face imprisonment. Since the ban, the country has seen a reduction in animal deaths, soil erosion, flooding and malaria. The Rwandan Government has subsequently hinted at the possibility to become the world's first plastic-free nation.

2. **Clean-up campaign**
   In 1998, Rwanda reintroduced 'Umuganda', also known as community work, at national level as part of efforts to reconstruct the nation and to nurture a shared national identity after the 1994 Genocide against the Tutsis. It consists of an obligatory collective street clean-up campaign that occurs every last Saturday of the month and this exercise requires all able-bodied citizens between 18 and 65 years old to clean streets, trim bushes and clean sewage systems throughout the country.

3. Car free day

The car free day is a Government initiative which was launched in 2016 to reduce vehicular emissions and keep Rwandans moving towards a healthier lifestyle. One day, every month in Rwanda's capital Kigali, residents are encouraged to walk or ride bicycles. As part of the car free day, the public can also take part in exercise and wellness activities organised by the city authorities.

4. Strategic Environmental Assessment

Rwanda published its General Guidelines and Procedures for Strategic Environmental Assessment (SEA) in June 2011. SEA has emerged in Rwanda based on the recognition that the EIA process cannot address strategic needs to assess and understand the cumulative environmental impacts of policies, plans, and programmes that may affect ecosystems, dependent communities and the economy at the country and trans-boundary levels.

5. National Strategy on Climate Change and Low Carbon Development 2011

This Strategy aims to guide the process of mainstreaming climate resilience and low carbon development into key sectors of the Rwandan's economy and provides guiding principles, strategic objectives, programmes of action, enabling pillars and a roadmap for the implementation of a strategic framework with the vision that Rwanda will be a developed climate-resilient, low-carbon economy by the year 2050.

6. Rwanda Green Fund

Lack of funding often impedes project implementation in Africa and Rwanda has overcome this obstacle by setting up the Rwanda Green Fund, which is an innovative environment and climate change fund. This Fund is strategically operationalised by providing expert technical assistance and financial support to the best public and private projects that align with Rwanda's commitment to a green economy. The Fund carries out public Calls for Proposals and applicants have a one-month window to submit their project concepts, developed according to pre-established criteria.

D.2 Kenya, South Africa and Nigeria

Environmental Rights within the Constitution

1. **Kenya**

   The Constitution of Kenya contains specific measures for environmental management embracing human rights fundamental to sustainable development and signals Kenya's commitment to sustainable development and environmental rights.

2. **South Africa**

   The Constitution of South Africa states that "Everyone has the right to an environment that is not harmful to their health or wellbeing". It also recognises the rights of future generations in the context of sustainable development by stating "and to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development".

3. **Nigeria**

   The Nigerian Constitution, like the Indian Constitution, contains an explicit environmental reference in the section that lays out policy directives, rather than fundamental rights (or otherwise justiciable rights). Its section 20 states, "The State shall protect and improve the environment and safeguard the water, air and land, forest and wildlife of Nigeria." This section is contained in the chapter entitled "Fundamental Objectives and Directive Principles of State Policy," indicating its status as a policy position rather than a guarantee of environmental protection.

4. **Zambia**

   The Zambian Parliamentary Conservation Caucus (ZPCC) is a non-partisan voluntary body drawing its membership from Zambian Parliamentarians. Its vision is to influence policy directions in the quest for environmental sustainability and is committed to conservation approaches that encourage sustainable economic development. The Offices of the Speaker and the Clerk of the National Assembly recognise the ZPCC's existence. In addition, it has the privilege of having some of its members belonging to Parliamentary sub-committees which are central to the interrogation of the implementation of Government policies and legislation. The ZPCC elaborated its Strategic plan 2015-2020 which outlines the actions to be undertaken by the ZPCC and its members.

E. Others

E.1 Canada

1. **Greener Neighbourhood Strategy**
   Within policy concepts introduced for sustainable city formation, Canada has developed a Greener Neighbourhood Strategy. This strategy focuses on identifying opportunities for the community to participate in reducing the environmental impact of their own neighbourhoods. Elements of this strategy include identifying the greatest opportunities for reducing environmental impact of neighbourhoods, research into areas of potential impact, development of community focused initiatives, such as incentives and educational campaigns, identifying opportunities for improved standards and Regulations to enhance the environmental performance of neighbourhoods, development of voluntary goals on energy efficiency, waste reduction, water conservation and ecological protection.

2. **Urban Forest Management Plan**
   Canada has adopted a roadmap that creates a shared vision for the future of a tree canopy through an Urban Forest Management Plan. This Plan aims at maintaining a sustainable community, promoting carbon capture, cleaning the air, reducing and cleaning storm water and providing wildlife habitat. It also has valuable economic benefits, such as increasing property values and reducing energy use.

E.2 Hawaii

The Hawaiian Government has formed an Environmental Parliamentary Caucus to encourage action on pressing environmental issues. The inaugural meeting of the Caucus was held in January 2020.

E.3 Australia (Sydney)

The Australian Federal Government addresses environmental issues by regulating so-called “matters of national significance”. Hence, Australian environmental policies are spread across a number of themes such as climate change, biodiversity, heritage, land, water, etc. Environmental governance is spread across its Federal Government, six States, two territories and over 560 municipalities. In 2017, the city of Sydney published its Environmental Action Plan for 2016-2021 and some of the key measures include the following:

1. **Greening of buildings**

   The strategies set for the greening of buildings include: -

   - the city of Sydney has developed voluntary standards for excellence in environmental performance in new buildings. The standards comprise smart and efficient design features including energy and emissions, water efficiency, materials and resource recovery, landscaping, biodiversity and community garden to deliver net zero carbon buildings. The city has many examples of innovative buildings that reach high standards of environmental performance while creating healthy, attractive places for people to live or work;
   - the development and delivery of an energy-focused retrofit program for apartments and other properties; and
   - encouraging energy efficiency and renewable energy through design excellence competitions, voluntary planning agreements and other planning instruments such as Development Control Plans and Local Environmental Plans.

2. **Greening the City**

   The strategies set for greening the city include: **-**

   - encouraging building owners to include green roofs and walls in their developments. The city has launched a Green Roofs and Walls policy and guidelines;
   - developing community gardens, land care groups, community footpath, verge gardens and community composting groups;
   - establishing minimum guidelines for the provision of open space, landscaping and urban canopy in new developments;
   - building habitat parks and landscape city streets to promote and support biodiversity; and
   - creating wildlife linkages and habitat pockets through residential suburbs, backyards and public parks.

3. **Green mobility**

   The strategies set for green mobility include:

   - creating a connected network of high-quality walking and cycling routes through Liveable Green Network and tactile signage network;
   - training courses in safe and courteous cycling; and
   - facilitating car sharing schemes by providing dedicated on-street parking.

Appendix 3: La Culture Environnementale - Proposed Strategies

Strategies for Policy 1: ***Reach out to all stakeholders through "une approche de proximité" to inform and catalyse environment responsible behaviours and actions***

(i) Mainstream environmental concerns in our day-to-day life and inspire actions through aggressive and sustained sensitisation campaigns using, *inter alia*, digital means such as ICT (through Applications, social media, and other means), and encourage the use of cultural tools (such as songs, slams, slogans) to inform and activate pro-environmental attitudes and behaviours.

(ii) Develop materials/ tools to enhance knowledge and understanding on emerging challenges such as climate change, coastal zone management, pollution prevention and sound environmental practices.

Strategies for Policy 2: ***Establish partnerships with all social groups and/or organisations and enabling a conducive environment to bring the needed change in mindset leading towards an ecological transition***

(i) Develop mechanisms for promoting and supporting partnerships for environmental stewardship with the private sector, NGOs, *Forces Vives*, youth, women associations, senior citizens, farmers, fishers, religious bodies and other associations to adopt, promote, and implement environment-friendly measures at grass root level.

(ii) Revive/ set up Environmental Clubs to encourage peer learning in schools, youth clubs, sports clubs, Community Centres, village halls and Social Welfare Centres for the promotion of environmental measures such as community gardening, composting, clean ups and embellishment/ landscaping.

(iii) Organise inter-villages/ towns competitions for clean-up campaigns/ embellishment/ greening, such as continuum of *Moris Nou Zoli Pei* and *Fleurir Maurice*.

(iv) Promote community watch initiatives to facilitate reporting on environmental offences.

Strategies for Policy 3: ***Review and update curriculum and/or extra-curricular activities (primary, secondary and tertiary) to instil an environmental culture***

(i) Review school curriculum to prepare students to respond to emerging environmental challenges.

(ii) Stimulate environmental education through "Experiential learning" (i.e. learning by doing) and outdoor activities such as beach watch, visit to nature reserves and ESAs, apiculture, permaculture, kitchen gardening and other community services.

Strategies for Policy 4: ***Revisit policies of institutions, such as schools, Government and private bodies, SMEs, industries, to encourage best environmental practices***

(i) Institutions such as schools, Government and private bodies, SMEs and industries will be required to develop and implement an Environmental Charter (so as to implement measures such as rainwater harvesting, rooftop gardening, efficient lighting, greening initiatives, reducing carbon footprint, recycling, sustainable transport, tree planting and plastic free campaigns).

Strategies for Policy 5: ***Empower different target groups through environmental education, training and awareness on topics such as climate change, coastal zone management, pollution prevention, biodiversity, waste management, sound environmental practices, amongst others, and on their interconnections***

(i) Create a pool of Environment Champions to disseminate environmental information to empower different target groups and encourage the adoption of eco-friendly attitudes, behaviours and actions.

Strategies for Policy 6: ***Mainstream environmental considerations in decision-making at the level of policymakers (cross-cutting issue that is being captured under overarching policies)***

(i) Strengthen awareness raising of policymakers on environmental issues and enable them to understand the consequences of their decisions on people and on the environment.

(ii) Creation of an environmental dialogue at the level of all parties to provide a platform to discuss pivotal environmental issues, therefore, encouraging informed decisions and guiding them towards better environmental stewardship.

Strategies for Policy 7: ***Encourage, support and disseminate research on environmental culture at different levels in the Mauritian population***

(i) Encourage inter and cross-disciplinary research on environmental issues, with the potential to render regenerative processes leading to positive local and/or national economic and social benefits.

(ii) Identify and study the gaps in pro-environmental attitude and population behaviour and devise appropriate responsive measures.

Appendix 4 : Urbanisme et Politique Environnementale - Proposed Strategies

The following strategies will translate the policy orientations/ recommendations into action-oriented measures.

Strategies for Policy 1: ***Ensure harmonised, inclusive and participatory land-use and environmental planning aligned to SDGs using robust planning tools***

(i) Develop a Strategic Environmental Assessment (SEA) Framework to assess carrying capacity for various geographical areas in Mauritius (region-wise or catchment wise).

(ii) Enhance multi-stakeholder consultation at permitting and licensing (e.g. EIA, PER, BLUP) phases and strategic assessment.

(iii) Harmonise land-use planning with national and international environmental policies, strategies and goals.

(iv) Develop and adopt a '*Code d'Urbanisme*' aligned with SDGs for resilient and inclusive communities.

(v) Mitigate environmental impacts and enhance human wellbeing by improving connectivity and mobility.

Strategies for Policy 2: ***Ensure resilient development through the protection and valorisation of ESAs***

(i) Harmonise and strengthen existing legislative and institutional frameworks for a coherent approach towards the protection and valorisation of ESAs.

(ii) Promote multi-stakeholder participation for the restoration of ESAs.

Strategies for Policy 3: ***Ensure inclusive and transparent decision-making in the environmental assessment process***

(i) Enhance transparency of the Environmental Licensing Systems.

Strategies for Policy 4: ***Promote ecosystem-based and strong sustainability approach to development for an ecological transition and for building resilient communities***

(i) Enhance protection of ecosystems.

(ii) Promote the use of ESAs as part of nature-based solutions.

Strategies for Policy 5: ***Empower authorities and stakeholders involved in development for robust planning, implementation, enforcement and monitoring***

(i) Streamline roles and clarify responsibilities of stakeholders involved in development planning.

(ii) Formulate and sustain technical capacity-building programmes for all actors involved in land-use and environmental planning and monitoring for a more resilient development.

Strategies for Policy 6: ***Increase green cover and promote human wellbeing through inclusive and nature-based solutions***

(i) Increase green spaces and tree cover in urbanised public areas by at least 10%.

(ii) Use abandoned agricultural lands for alternative activities.

(iii) Promote sustainable practices in the community.

(iv) Promote sustainable urban drainage systems centered on nature-based solutions.

Strategies for Policy 1: ***Enhance the resilience of Mauritius through a regional and water-catchment approach to climate change by promoting, preferably, nature-based solutions, taking into consideration Natural Capital Accounting and by adopting a ridge-to-reef approach in all initiatives related to climate action***

(i) As part of a ridge-to-reef approach, encourage nature-based solutions in all infrastructural development projects to mitigate inland flooding, coastal inundation, drought, and lagoonal sedimentation.

(ii) Mainstream climate change in the development control process by integrating ESAs in the National Development Strategy and Outline Planning Scheme (wetlands survey initiated).

(iii) Assess ecosystems services, both in physical and monetary terms, in coastal development projects (EIA and PDS projects) and ensure their integration therein.

(iv) Enhance access to information and responsiveness capacity of all stakeholders, including of CSOs, prior to any development in vulnerable areas.

(v) Enhance preparedness to deal with risks from climate change including review of existing early warning systems and the setting up of additional ones.

Strategies for Policy 2: ***Accelerate mainstreaming of climate change in key sectors of the economy such as agriculture, fisheries, tourism, public infrastructure (schools, hospital, etc.), building, coastal zone, water, health, energy, transport, waste, industry, land-use planning and disaster risk reduction***

(i) Assess and develop adaptation and mitigation plans in key sectors namely, energy, transport, waste, industry, land-use planning, disaster risk reduction infrastructure, water, agriculture, fisheries, tourism, coastal zone and health.

(ii) Develop tools to carry out vulnerability and risk assessment, as well as carbon footprint assessment.

(iii) Enhance capacity of stakeholders to undertake vulnerability and risk assessment and adaptation as well as carbon footprint, and develop mitigation measures.

Strategies for Policy 3: ***Reduce our reliance on fossil fuels by 2050, promote the use of renewable energy, encourage energy efficiency, e-mobility, bio-farming, and integrated waste management (circular economy)***

(i) Evaluate mitigation potential and identify strategic priorities for urgent mitigation actions and expansion of renewable energy technologies.

(ii) Promote eco-friendly institutions/ buildings (domestic, commercial and industrial) at all levels by adopting best practices such as renewable energy, energy efficiency, and encourage the construction of sustainable buildings based on appropriate building codes.

(iii) Improve access to grid (improve grid absorption capacity through smart grid) to individuals, industries and others to sell excess renewable energy produced.

(iv) Promote greening of the land transport sector by analysing the impact of mass transport on congestion and promote carpooling, non-motorised transport by designating pedestrian streets and sidewalks/ cycle tracks, encouraging electric bus/ scooter/ vehicle and charging station equipped with PV panels and introducing entry fee in Port Louis/ Ebène.

(v) Promote smart agriculture, namely, bio farming and composting of livestock waste.

(vi) Promote sustainable waste management through circular economy (waste segregation, recycling and composting of waste as a means to reduce GHG emission from the landfill).

Strategies for Policy 4: ***Increase the sink capacity through greening, including of towns and villages***

(i) Promote wide participation for the establishment of green corridors/ belts on motorway, preservation and enhancement of river reserves, mountain slopes (e.g. Port Louis and Moka Range) and coastal stretches (e.g. Gris Gris to La Cambuse), and creation of new green spaces and parks in all towns and villages.

(ii) Creation of green spaces in all development projects and replacement of each tree cut by at least three (3) similar trees.

(iii) Enhance forest cover, greenbelts and blue carbon sink including through mangroves propagation.

(iv) Create green corridors/ belts on the motorway, and preserve and enhance river reserves, mountain slopes and coastal stretches.

Strategies for Policy 5: ***Enhance/ strengthen governance on climate change and empower more institutions to take up climate change adaptation, disaster risk reduction and mitigation measures***

(i) Enforce the Climate Change Act.

(ii) Build capacity of stakeholders (including CEOs, Directors, and Politicians) for implementation of commitments taken by Mauritius in international fora, including at the Conference of Parties (COP), Councils and Summit, in line with the Climate Change Act.

(iii) Ensure that climate change, disaster risk reduction, and ecological risks are integrated in the decision-making process of all institutions including, Government institutions, NGOs, Local Authorities and the private sector.

(iv) Train and empower stakeholders to formulate project proposals for accessing innovative climate finance.

Strategies for Policy 6: ***Strengthen partnerships on climate change issues at local, national, regional and international levels***

(i) Enhance private sector and donor agencies involvement in mobilising climate finance, including through innovative financial mechanisms.

(ii) Promote collaboration with foreign research institutions to enhance local research on climate change, focused on the local imperatives to ensure elaboration of mitigation and adaptation measures that fit the local context.

(iii) Strengthen networking and collaboration among all stakeholders at national (Coordination Committees), regional (Indian Ocean Commission and Indian Ocean Rim Association) and international (bilateral and multilateral) levels.

Strategies for Policy 7: ***Promote a human rights-based approach to all climate change actions***

(i) Enhance civil society participation in environmental decision-making processes, access to information and effective remedies for victims.

(ii) Promote research and advocacy to address human rights issues caused by environmental degradation, particularly to groups in vulnerable situations.

Appendix 6 : Zone Côtières et Environnement Marin - Proposed Strategies

Strategies for Policy 1: ***Use ridge-to-reef approach and enhance resilience of the coastal ecosystems to the impacts of natural hazards***

(i) Establish managed retreat to allow adaptation and resiliency measures.
(ii) Promote coral reef restoration.
(iii) Implement innovative and more sustainable site-specific nature-based/ hybrid coastal protection measures and restoration of beach profiles (such as mangroves plantation, artificial reefs, and flexible revetments).

Strategies for Policy 2: ***Ensure that livelihood and development in the coastal zone are sustainable***

(i) Strengthen legislation and enforcement.
(ii) Develop guidelines and protocols for best practices within coastal zone.
(iii) Carry out a study on the carrying capacity of the coastal zone to determine the threshold for development and appropriate zoning/ Marine Spatial Plan.
(iv) Restore access to the beach and along the shoreline.
(v) Proclamation of new public beaches and creation of coastal parks within ESAs to allocate more space for public use.
(vi) Green the coastal zone.

Strategies for Policy 3: ***Restore biodiversity in the coastal zone***

(i) Allow regeneration of coastal ecosystems.
(ii) Ban destructive fishing practices in the lagoon.
(iii) Minimise land-based sediment load in the lagoon.
(iv) Enhance protection and management of islets and outer islands.
(v) Enhance research and consolidate the existing databases and knowledge on the coastal zone through better collaboration with research institutions.

Strategies for Policy 4: P*reserve and enhance collaboration and commitment from all stakeholders acting in the coastal zone*

(i) Strengthen coordination among organisations having a mandate on the coastal zone.
(ii) Reinforce human resources and undertake capacity building for organisations mandated to act in the coastal zone.
(iii) Improve public participation in the EIA process for coastal zone projects.

Strategies for Policy 5: ***Improve education and awareness on the coastal zone at all levels***

(i) Conduct aggressive and innovative sensitisation campaigns (e.g. songs/ drama).

Strategies for ***Policy 6*****:** ***Enhance resilience of the coastal zone to anthropogenic impacts***

(i) Encourage tourism activities inland and outside the lagoon.
(ii) Ensure sound wastewater management.
(iii) Restore natural endemic coastal vegetation.
(iv) Ensure sustainable development including aquaculture and fishing practices.
(v) Review oil spill contingency planning and response (being addressed during the review of the EPA).

Appendix 7 : Biodiversité et Ressources Naturelles - Proposed Strategies

Strategies for Policy 1: ***Ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation and any legitimate loss of ecosystems services be compensated accordingly, using SEA and natural capital accounting***

(i) Map, rank and demarcate biodiversity conservation zones.

(ii) Review existing development mechanisms for the protection of biodiversity, including improving development control through the integration of biodiversity in EIA and Building and Land Use Permit.

(iii) Preserve biodiversity.

Strategies for Policy 2: ***Increase awareness, participation and engagement of stakeholders at all levels for the protection of biodiversity***

(i) Promote public awareness on biodiversity.

Strategies for Policy 3: ***Improve, coordinate and harmonise institutional and legislative frameworks, as well as enhance accountability and transparency, and ensure effective enforcement of biodiversity conservation***

(i) Strengthen institutions and legislations for effective and efficient enforcement of biodiversity conservation.

Strategies for Policy 4: ***Provide financial support and fiscal incentives to private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity***

(i) Devise financial and fiscal tools to help promote biodiversity conservation among private sectors and CSOs, and ensure coordination between funders for effective use of resources.

Strategies for Policy 5: ***Promote research and collection of baseline data, and ensure access to such data to support evidence-based policy and management of biodiversity***

(i) Facilitate access to information related to research on biodiversity conservation, to policymakers.

Strategies for Policy 6: ***Secure existing biodiversity conservation areas and create new ones across the Republic of Mauritius***

(i) Increase resilience of our biodiversity across Mauritius with harmonisation.

(ii) Harmonise human activities including socialisation with nature.

Appendix 8 : Lutte Contre la Pollution - Proposed Strategies

Strategies for Policy 1: ***Strengthen and harmonise policies and legislative and institutional frameworks, and enforcement on pollution prevention and control***

(i) Reinforce integrated approaches to pollution prevention and control.

(ii) Amend and harmonise existing environmental legislation (e.g. EPA, Effluent Discharge Permit, IWA Regulations, Plastic Regulations) and develop new ones for specific cases (e.g. vibration, odour, ESAs, wetlands).

(iii) Optimise use of information and communication technologies, such as safe city cameras and creation of mobile application for tracking of offenders and enhancing feedback from the public on environmental offences.

(iv) Create a tripartite (public, private and NGOs) partnership to facilitate communication, mediation and information sharing.

Strategies for Policy 2: ***Holistically address pollution in air, noise, water and land for the wellness of citizens***

(i) Set up an Environmental Quality Index for air, fresh water and sea water quality to improve the understanding of the relationship between environmental conditions and human health.

(ii) Address vehicular emissions (smoke and noise) holistically.

(iii) Improve management of wastewater disposal.

(iv) Deter land pollution at source.

(v) Address noise nuisances.

Strategies for Policy 3: ***Limit bad neighbourhood activities and enhance mitigating measures***
(Note : cross-cutting with 'Urbanisme et politique environnementale')

(i) Improve demarcation and zoning for polluting activities.

(ii) Enhance landscaping and greening around Mauritius.

(iii) Introduce a SEA framework (mechanism, area-wide approach) and make SEA mandatory for land use planning.

(iv) Review the list of undertakings requiring EIA licenses and PER Approvals to include new polluting activities, e.g. shopping malls).

Strategies for Policy 4: ***Inculcate environmentally-responsible behaviour at all levels, including in the public and private sectors as well as the general public***

(i) Promote environmental community policing over the island.

(ii) Empower industries and target groups to adopt eco-friendly behaviour and actions.

(iii) Optimise the use of Citizen Support Portal for a culture of proximity.

Note: Cross-cutting with the theme "*La culture environnementale".*

Strategies for Policy 5: ***Build resilient, inclusive and sustainable industrialisation in line with Sustainable Development Goals 9 and 12***

(i) Promote adoption of best practices and technology transfer for more effective mitigation of pollution.

(ii) Optimise use of data obtained through the implementation of the Environment Protection (Industrial Waste Audit) Regulations 2008.

(iii) Encourage EPR to promote waste reduction, re-use and recycling *(Cross-cutting with theme: 'La gestion des déchets').*

Appendix 9: Gestion des Déchets

Strategies for Policy 1: ***Prevention and environmentally responsible consumption***

(i) Enhance home composting.
(ii) Coordinate and develop financial tools for waste prevention and reduction.
(iii) Prevent packaging.
(iv) Extend the deposit concept on post-consumer products.
(v) Harmonise and develop legal procedures.

Strategies for Policy 2: ***Shift in the solid waste management system from a linear approach to a circular economy with focus on resource recovery and recycling***

(i) Optimise waste management system - Primary storage and collection (source segregation and separate collection).
(ii) Optimise waste management system - Material Recovery Infrastructure (civic amenity centres, sorting units and composting plants).
(iii) Develop financing tools for waste collection.
(iv) Optimise Regulations on oil waste and develop Regulations on construction and demolition waste.

Strategies for Policy 3: ***Safe disposal of wastes through the provision of adequate disposal infrastructure***

(i) Implement adequate disposal infrastructures: Vertical Expansion of the Mare Chicose landfill.
(ii) Develop financing tools for waste disposal.
(iii) Review and reinforce the environmental framework.

Strategies for Policy 4: ***Tapping the energy recovery potential of solid wastes***

(i) Characterise solid wastes.
(ii) Develop a framework for waste-to-energy infrastructure.
(iii) Study and implement waste-to-energy projects.

Appendix 10 : Contrôle des Déchets Plastiques - Proposed Strategies

Strategies for Policy No.1: ***Strengthen the regulatory and institutional frameworks for the control of plastic and promotion of alternatives including assessing the impact of new Regulations***

(i) Review and strengthen legal provisions for control of plastic pollution.

(ii) Promote the use of sustainable alternatives by providing adequate infrastructure and economic instruments.

Strategies for Policy No.2: ***Promote reuse and recycling in the plastic economy***

(i) Broaden the characterisation of plastics to differentiate between single-use and durable plastics, including recyclables.

(ii) Ensure the setting up of a sustainable mechanism for sorting, collection and recycling to encourage waste segregation at source and reuse/ recycling of plastic wastes.

(iii) Ensure establishment and growth of private recyclers to ensure outlets for recyclables.

(iv) Promote innovative recycled products to enhance viability of recycling.

Strategies for Policy No.3: ***Encourage continued sensitisation and awareness raising on plastic issues***

(i) Promote environmental stewardship at all levels to stop dumping and littering of plastics at public places and on bare lands.

(ii) Ensure continuous sensitisation and awareness campaigns, through appropriate media, on sustainable consumption and production of plastics.

Strategies for Policy No. 4: ***Support research and development on plastic, its impacts and sustainable alternatives***

(i) Encourage further research on the impacts of plastic pollution on the environment and its resulting effects on human and ecosystem health.

(ii) Support research and development to evaluate alternatives to plastic and promote the use of local resources.

(iii) Promote research and development to support the recycling industry.

(iv) Carry out research and development for the design of collection facilities along beaches for filtration of water bodies from debris.

Appendix 11: Overarching Policies and Strategies to Operationalise a "Transition Écologique" in Mauritius

1. Integrating environmental and climate change rights in national laws

R.1. To amend the EPA and the Climate Change Act, as appropriate, taking into consideration, *inter alia*, human rights, including the needs of persons with disabilities, cultural heritage and gender issues.

R.2. To upscale the Master Plan into a full-fledged National Environmental Policy, Strategy, Action Plan, as well as to develop a new Environmental Investment Programme.

2. Adopting an inclusive dialogue approach to environmental protection

R.3. To encourage an inclusive dialogue on environment and climate change.

3. Review of Mauritius' development model to enable a sustainability transition

R.4. To promote circular economy as an overarching paradigm through the establishment of circular economy clusters.

R.5. To integrate Natural Capital Accounting within National Accounts to enable informed decision-making on matters impacting the environment.

R.6. To develop and implement a long-term strategy to achieve carbon neutrality by 2070.

4. Strengthen Development Control Mechanisms in Mauritius

R.7. To develop a Strategic Environment Assessment (SEA) framework to enable the conduct and review of SEA at district level/ Local Authorities' jurisdictions and ultimately, allow development only within the carrying capacity of ecosystems.

R.8. To legally protect and conserve all Environmentally Sensitive Areas (ESAs). For ESAs of prime importance situated in private domain, Government to acquire these and promote nature-based solutions as a strategy to enhance resilience to climate change impacts.

R.9. To integrate ESAs in National Development Strategies and land-use planning process and documents such as the Outline Planning Schemes.

5. Strengthen the legal and institutional frameworks for environmental protection

R.10. To review, strengthen and harmonise the EPA and other environmental laws, along with a review of the environmental governance and institutional frameworks to achieve more effective environmental management and protection, supported by a rigorous enforcement mechanism and by the use of regulatory impact assessments.

R.11. To formulate a Sustainable Development Framework and to revamp the NEC into the National Environment and Sustainable Development Commission and to enlarge its portfolio to holistically plan and guide development across economic, social and environmental dimensions.

R.12. To establish a Council for Environmental Experts and Practitioners to ensure, *inter alia*, continuous capacity and skills development.

R.13. To set up an Environment Expert Group (Think Tank) comprising independent experts and practitioners under the MESWMCC to advise on issues with limited in-house expertise.

6. Reinvigorate environmental stewardship at all levels

R.14. To implement a mandatory Environmental Charter for all public and private bodies defining their engagement for implementation of environmental measures, lowering of their carbon footprint and the establishment of a reporting mechanism.

R.15. To enhance empowerment of stakeholders to help in protecting the environment through measures such as:

(i) establishment of a forum for NGOs and CSOs on environmental programmes with the support of the private sector;
(ii) promoting a mechanism for community watch;
(iii) implementing an Environmental Whistle Blower Programme;
(iv) adding new themes to current scope of CSR funding;
(v) creation of Environment Clubs at Village Council level to spearhead village greening and monitor cleaning;
(vi) setting up of Environment Volunteer's Programme; and

(vii) encouraging the creation of backyard/ kitchen gardens.

R.16. To promote the greening of spaces in public and private institutions, including businesses and commercial activities.

R.17. To allocate/ acquire lands for the setting up of community gardens, green areas and health tracks in all villages and towns where there are no such facilities.

7. Boosting resources mobilisation for environmental protection

R.18. To use innovative economic instruments and provide targeted fiscal incentives for environmental protection (e.g. crowdfunding, new forms of PPPs, green bonds, Environmental Protection Fee for pollution/ high risks business activities).

R.19. To restyle the "Corporate Social Responsibility" funding as the "Corporate Social and Environmental Responsibility" to include new eligible projects targeting a wider range of environmental issues.

R.20. To provide incentives and/or economic instruments for the greening of the transport sector.

R.21. To introduce new fiscal measures such as private sector sponsorship to communities as an encouragement to participate in activities related to frequent maintenance of public places and ecosystem services as well as the adoption of ESAs across the island.

R.22. To establish a donor's coordination mechanism under the MESWMCC for a sustainable approach in environmental protection and conservation.

R.23. To task the MEAs Committee (established under the EPA) to explore all potential windows for optimal resource mobilisation from international funding institutions, donors, bilateral cooperation, and regional organisations to meet the requirements of global MEAs such as the UNFCCC, the CBD and the Stockholm Convention on Persistent Organic Pollutants.

8. Improve transparency and communication with stakeholders

R.24. To set up an "*Observatoire de l'Environnement*" under the *aegis* of the MESWMCC to monitor and communicate on the EPI/ health of environmental media, and sharing of best practices.

9. Enhance applied research and innovation on environment issues

R.25. To support and enhance applied research and innovation on environment issues, set up a Science-to-Policy platform comprising relevant bodies, including the academia under the MESWMCC to serve as an advisory body for improved environmental governance, evidence-based decision-making, and adaptive management.

10. Upscaling policies and measures in key sectors impacting the environment

R.26. To mitigate the environmental impacts associated with wastewater.

R.27. To mitigate environmental pollution and promote food safety by upscaling sustainable agricultural practices for both crop and livestock sectors.

R.28. To enhance environmentally sustainable practices in the tourism sector and promote new and green products to support responsible tourism.

R.29. To mitigate the impact of pesticides on the environment, including golf courses.

11. Mainstreaming gender

R.30. To enhance capacities for gender mainstreaming and women's empowerment in the environment sector.

R.31. To support and strengthen gender-responsive policy research and foster availability of disaggregated data.

R.32. To enhance and sustain gender responsiveness in the environment sector.

R.33. To enhance the establishment of a monitoring and evaluation system that supports gender mainstreaming in the environment sector.

R.34. To promote partnership and knowledge management on gender mainstreaming on environmental issues.

Appendix 12: Thematic Areas Policies

(***Policies in this Appendix are the same as the ones in section 3.0. The purpose of including these same policies in Appendix 12 is to make them easily accessible for readers who wish to consult policies without having to return to the section in the document.***)

1. La culture environnementale

Policy 1: Reach out to all stakeholders through '*une approche de proximité*' to inform and catalyse environment responsible behaviours and actions.

Policy 2: Establish partnerships with all social groups and/or organisations and enable a conducive environment to bring the needed change in mindset leading towards an ecological transition.

Policy 3: Review and update curriculum and/or extra-curricular activities (primary, secondary and tertiary levels) to instil an environmental culture.

Policy 4: Revisit policies of institutions (such as schools, Government and private bodies, SMEs, industries, and others) to encourage best environmental practices.

Policy 5: Empower different target groups through environmental education, training and awareness on topics such as climate change, coastal zone management, pollution prevention, biodiversity, waste management, sound environmental practices, amongst others, and on their interconnections.

Policy 6: Mainstream environmental considerations in decision-making at the level of policymakers *(cross-cutting issue that is being captured under overarching policies).*

Policy 7: Encourage, support and disseminate research on environmental culture at different levels in the Mauritian population.

2. Urbanisme et politique environnementale

Policy 1: Ensure harmonised, inclusive and participatory land-use and environmental planning aligned to SDGs using robust planning tools.

Policy 2: Ensure resilient development through the protection and valorisation of ESAs.

Policy 3: Ensure inclusive and transparent decision-making in the environmental assessment process.

Policy 4: Promote ecosystem-based and strong sustainability approach to develop an ecological transition and for building resilient communities.

Policy 5: Empower authorities and stakeholders involved in development for robust planning, implementation, enforcement and monitoring.

Policy 6: Increase green cover and promote human wellbeing through inclusive and nature-based solutions.

3. Le changement climatique

Policy 1: Enhance the resilience of Mauritius through a regional catchment and water catchment approach to climate change by promoting, preferably, nature-based solutions, taking into consideration Natural Capital Accounting and adopting a ridge-to-reef approach in all initiatives related to climate action.

Policy 2: Accelerate mainstreaming of climate change in key sectors of the economy such as agriculture, fisheries, tourism, public infrastructure (schools and hospitals), building, coastal zone, water, health, energy, transport, waste, industry, land-use planning and disaster risk reduction.

Policy 3: Reduce our reliance on fossil fuels by 2050, promote the use of renewable energy, and encourage energy efficiency, e-mobility, bio-farming, and integrated waste management (circular economy).

Policy 4: Increase the sink capacity through greening, including of towns and villages.

Policy 5: Enhance/ strengthen governance on climate change and empower more institutions to take up climate change adaptation, disaster risk reduction and mitigation measures.

Policy 6: Strengthen partnerships on climate change issues at local, national, regional and international levels.

Policy 7: Promote a human rights-based approach to all climate change actions.

4. Zone Côtières et environnement marin

Policy 1: Use ridge-to-reef approach and enhance resilience of the coastal ecosystems to the impacts of natural hazards.

Policy 2: Ensure that livelihood and development in the coastal zone are sustainable.

Policy 3: Restore biodiversity in the coastal zone.

Policy 4: Preserve and enhance collaboration and commitment from all stakeholders acting in the coastal zone.

Policy 5: Improve education and awareness on the coastal zone at all levels.

Policy 6: Enhance resilience of the coastal zone to anthropogenic impacts.

5. Biodiversité et ressources naturelles

Policy 1: Ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation and any legitimate loss of ecosystems services be compensated accordingly, using SEA and natural capital accounting.

Policy 2: Increase awareness, participation and engagement of stakeholders at all levels for the protection of biodiversity conservation.

Policy 3: Improve, coordinate and harmonise institutional and legislative frameworks, as well as enhance accountability and transparency, and ensure effective enforcement of biodiversity conservation.

Policy 4: Provide financial support and fiscal incentives to private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity.

Policy 5: Promote research and collection of baseline data, and ensure access to such data to support evidence-based policy and management of biodiversity.

Policy 6: Secure existing biodiversity conservation areas and create new ones across the Republic of Mauritius.

6. Lutte contre la pollution

Policy 1: Strengthen and harmonise policies and legislative and institutional frameworks and enforcement on pollution prevention and control.

Policy 2: Holistically address pollution in air, noise, water and land for the wellness of citizens.

Policy 3: Limit bad neighbourhood activities and enhance mitigating measures.

Policy 4: Inculcate environmentally-responsible behaviour at all levels, including public and private sectors as well as the general public.

Policy 5: Build resilient, inclusive and sustainable industrialisation in line with SDGs 9 and 12.

7. La gestion des déchets

Policy 1: Prevention and environmentally responsible consumption.

Policy 2: Promote a shift in the solid waste management system from a linear approach to a circular economy with focus on resource recovery and recycling.

Policy 3: Ensure safe disposal of wastes through the provision of adequate disposal infrastructure.

Policy 4: Tap the energy recovery potential of solid wastes.

8. Contrôle des déchets plastiques

Policy 1: Strengthen the regulatory and institutional frameworks for the control of plastic and promotion of alternatives including assessing the impact of new Regulations.

Policy 2: Promote reuse and recycling in the plastic economy.

Policy 3: Encourage continued sensitisation and awareness raising on plastic issues.

Policy 4: Support research and development on plastics, its impacts and sustainable alternatives.

Appendix 13: Specific Issues Recommendations

Each of the following issues is analysed in greater details at section 4.0 of the Master Plan. This list of recommendations has been developed in consideration of legal and institutional framework adjustments required for the "*transition écologique*" based on global best practices and a gap analysis. They are meant to operationalise the broad policy directives presented in the previous sections.

1. SUSTAINABLE DEVELOPMENT

Short-Term

a) Revamp the National Environment Commission into the National Environment and Sustainable Development Commission.
b) Review current mandate of the SD Division in line with new tasks related to SD:
   - Implement a Governmental SD communication strategy;
   - Support the National Environment and Sustainable Development Commission; and
   - Establish SD coordination at national level.

Long-Term

a) Adopt a Sustainable Development Framework (independent of the EPA) and related Regulations throughout the Government of the ROM.
b) Integrate general principles of environmental management and sustainable development as well as specific principles that pave the way towards green transition in the EPA.

2. STRATEGIC ENVIRONMENTAL ASSESSMENT

Short-Term

a) Amend the EPA to include provisions for SEA.
b) Establish a new SEA/ EIA/ PER combined Division.
c) Prepare Guidelines for SEAs for programmes, policies, plans and land-use planning.

Long-Term

Establish an independent SEA/ EIA Division in the Department of Environment. The PER Division would remain as an independent Division.

3. OBSERVATOIRE DE L'ENVIRONNEMENT AND NATIONAL YOUTH ENVIRONMENT COUNCIL (SCIENCE TO POLICY)

Short-Term

a) Amend the EPA to create an "*Observatoire de l'Environnement*", an "*Observatoire de l'Environnement*" National Committee and a Science to Policy Platform.
b) Develop a cooperative arrangement with Réunion Island to establish a joint environment *Observatoire*, building on the French environment *Observatoire* network.

Long-Term

Co-locate the "*Observatoire de l'Environnement*" with the UoM to access a wider range of expertise, develop cooperative environment projects with academia and the private sector, and foster innovative research.

4. CIRCULAR ECONOMY AND WASTE MANAGEMENT

Short-Term

a) Amend the EPA and/or other environmental legislation to introduce general provisions relevant to a circular economy such as:
    - Introduction of a disposal fee for industrial and commercial wastes at the landfill.
    - Waste segregation at source.
    - Obligating hotels, industrial and commercial sectors to segregate their wastes and send organic wastes for composting and recyclable materials to recyclers.
    - Prohibition of specific wastes from landfills and transfer stations.
    - Implementation of EPR.
    - Setting-up of a construction and demolition wastes management system.
    - Recycling of used tyres and end-of-life vehicles.
    - Sorting of waste at school level following an intensive sensitization campaign.
b) Amend the EPA to introduce specific penalties for offences related to hazardous wastes.
c) Short-term priorities:
    - Technical

- Carry a feasibility study to identify ways to manage hazardous wastes[24] (on-site/ offshore treatment, chemical, incineration, ozonation or other).
- Keep an up-to-date GIS database on pollution and wastes sites.

- Demand-side
  - Develop and implement a "*culture environnementale*" campaign to raise citizens' awareness regarding the collection and recycling of waste.
  - Encourage and empower companies in playing an active role in reduction, reuse and recycling.
  - Initiate concerted sensitisation actions and enforcement activities - *Police de l'Environnemen*t and Health Inspectorate Cadre of Local Authorities to curtail pollution.
  - Encourage Local Authorities to collect waste before it reaches the seashore.

- Policies
  - Finalise and implement the Solid Waste Management Strategy.
  - Develop and implement sustainable consumption and production in Government.
  - Develop financial incentives for recycling (deposit/ refund, refundable tax).
  - For plastic (including PET bottles), single-use items and Styrofoam policy and measures, see the chapter on Plastics.
  - Adopt policies and develop measures to facilitate composting in households and in the private and public sectors.
  - Initiate development and discussion of a regional cruise ship waste reduction Regulation and other waste management and circular economy cooperative initiatives[25].

[24] Ideally, in a circular economy, hazardous wastes are not put on the market. When hazardous wastes stockpiles exist and when an inflow of hazardous wastes still enters the market, temporary solutions have to be found to prevent health issues and environmental degradation. The EU has enforced REACh (Registration, Evaluation, Authorization and Restriction of Chemicals), a comprehensive legal framework that addresses all chemicals in use and requires companies that market chemicals to present a set of test data. However, it will take many years before REACh includes all the substances it intends to regulate. In addition, REACh does not fully cover the chemical content in articles that are imported into the EU.

[25] The Pacific waste management model comprises a hub and spoke components. The hub being the centre for coordination and recycling while the spokes are the locations from which wastes are collected. For Mauritius, Rodrigues and the outer islands would be the spokes and Mauritius the hub. Nonetheless, this does not preclude Mauritius from developing agreements from neighbouring countries to exchange and share services.

Long-Term

a) Establish a new Circular Economy Unit at the Solid Waste Management Division.
b) Evaluate the training needs for staff and initiate training programme.
c) Develop an Integrated Waste Management legislation and eventually amend the said legislation to integrate the concept of circular economy.

5. PLASTIC MANAGEMENT

Short-Term

a) Adopt a legal framework to address all aspects of plastic pollution and to support a circular economy (in the EPA or in the Waste Management Act) and complete the comprehensive plastic pollution regulatory regime.
b) Continue efforts at the international level to develop international conventions to regulate the life of plastic products and reduce their impacts, and to adopt EPR (discussions with WTO).
c) Develop a partnership with Réunion Island for the disposal of problematic plastics.
d) Adopt a performance management, assessment and reporting framework to ensure continual progress in achieving a reduction of plastic pollution.
e) Mandate the "*Observatoire de l'Environnement*" to monitor and report on the state of plastic pollution.
f) Create enabling conditions to encourage the manufacture and use of alternatives to plastics.
g) Ensure proper enforcement of plastic waste legislation.

Long-Term

a) Complete the comprehensive plastic pollution regulatory regime.
b) Assess the composition of various packaging wastes materials (plastics and others) to obtain an evaluation of potential revenues to support the collection and recycling system.
c) Assess the development of local manufacturing and use of alternatives to plastics and adjust policies and measures and continue creating enabling conditions to encourage the manufacture and use of alternatives to plastics.

6. ENVIRONMENTALLY SENSITIVE AREAS

Short-Term

a) Make use of conservation easements to protect ESAs.
b) Revise the EPA to increase coordination amongst the different Ministries involved in the protection and management ESAs.
c) Amend the EPA to incorporate provisions of ESAs taking into consideration the proposed amendments for mangroves, corals and seagrass in the Fisheries Bill.
d) Formalise a list of ESAs including marine ESAs.
e) Create an ESA Division.
f) Explore and develop partnerships with international organisations to fund and manage ESAs.

Long-Term

a) Amend the Native Terrestrial Biodiversity and National Parks Act to incorporate ESAs into the network of protected areas.
b) Amend section 8(1) of the Constitution to include 'environment protection' to allow the Minister of Housing and Land Use Planning to compulsorily acquire land for the protection of ESAs.
c) Develop, for all ESAs and buffer zones, a conservation strategy, an action plan and priority interventions measure for in-situ conservation.
d) Adopt various measures to integrate ESAs into decision-making including the EIA and the SEA processes and into the land-use planning criteria.

7. OIL SPILLS AND ENVIRONMENTAL EMERGENCIES

Short-Term

a) Develop and adopt a National Spill Contingency Plan for terrestrial and marine environment and establish a National Spill Advisory Committee.
b) Define the alert levels according to the severity of the situation (for land and sea spills) and requiring the degree of intervention, local or officers of the Ministry.
c) Review and update, on a regular basis, both the Mauritius NOSCP and the regional coordination and intervention plans.
d) Initiate negotiations to amend the international Conventions regarding compensation to obtain adequate payments for damages incurred by a spill.

e) Improve early warning surveillance capacity to indicate when a ship is off course, nearing the shoreline and coastal reefs.
f) Assess and update the national and the regional oils spills response capacity.
g) Evaluate training needs for staff and initiate training programme.
h) Incorporate all the stages of the disaster (chemical/ oil spills), management cycle, namely Risk Reduction and Prevention, Mitigation, Preparedness, Response, Recovery and Reconstruction in the EPA and amend the powers of the Director of the Environment accordingly.

8. ENFORCEMENT STRENGTHENING AND COMPLIANCE MECHANISMS

Short-Term

a) Complete the array of EPA policies covered by adopting the nine (9) EPA priority proposals.
b) Develop cooperative arrangements with citizens interested in environmental protection.
c) Conduct a periodic performance audit of the '*Police de l'Environnement*' with the objective of improving performance and identifying underfunded areas.
d) Evaluate training needs for staff and initiate training programme.
e) Establish an IWA Division to implement the IWA Regulations.
f) Add six (6) staff and related budget to the '*Police de l'Environnement*' to support enforcement activities related to three (3) of the nine (9) EPA new priority areas.

9. NATIONAL ENVIRONMENTAL LABORATORY

Short-Term

a) Continue investing is state-of-art equipment and recruit specialised personnel as required.
b) Develop a collaborative partnership with the UoM to access more expertise, to guide cutting-edge research, to train students in environmental laboratory techniques, to foster innovative technologies and to optimise laboratory investments.
c) Develop a collaborative partnership with regional laboratories (Indian Ocean Region) to access more expertise and enhance professional development through staff exchange and other approaches.

6.0 MAURITIUS ACTION PLAN

6.1 Action Plan for Overarching Policies and Strategies for Mauritius

- **Funds earmarked for the Mauritius Action Plan is contingent on obtaining budget from annual Government appropriations and/or from donors.**
- **Provision of adequate staffing and resources are subject to the economic situation of the country at the budget time and highly dependent on financial and other resources available.**
- **Fiscal incentives and subsidies will have to be clearly defined and will be subject to policy decision. They also depend on affordability in relation to revenue/growth to be triggered.**

Box 4: Remarks from the Ministry of Finance, Economic Planning and Development

6.1.1 Integrating environmental and climate change rights in national laws

Overarching Policies and Strategies 1				
Overarching Policy:	**To amend the EPA and Climate Change Act, as appropriate, taking into consideration, *inter alia*, human rights, including the needs of persons with disabilities, cultural heritage and gender issues.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To amend the EPA and the Climate Change Act, as appropriate, taking into consideration, *inter alia*, human rights, including the needs of persons with disabilities, cultural heritage and gender issues.	Seek advice from Attorney General's Office (AGO) on the matter.	4-5 years Long-Term	In-kind	MESWMCC & AGO
TOTAL			-	

6.1.2 Adopting an inclusive dialogue approach to environmental protection

Overarching Policies and Strategies 2				
Overarching Policy:	**To review current environmental planning approaches over longer time scales and address systemic barriers to environmental challenges.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To encourage an inclusive dialogue on environment and climate change.	Hold consultations on the way forward.	2-4 years Medium-Term	In-kind	MESWMCC
To upscale the Master Plan into a full-fledged National Environmental Policy, Strategy, Action Plan, as well as develop a new Environmental Investment Programme.	Prepare a Cabinet Paper on the outcomes of the Master Plan. Seek donor aid towards developing a term of reference and hire an international consultancy firm.	2 - 4 years Medium-Term	4.4 Plus In-kind	MESWMCC
TOTAL			**4.4**	

6.1.3 Reviewing our development model to enable a sustainability transition

Overarching Policies and Strategies 3				
Overarching Policy:	**To review our development model to enable a sustainability transition.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To promote circular economy as an overarching paradigm shift through the establishment of circular economy clusters.	To set up a Technical Advisory Committee (TAC) to explore ways to develop circular economy clusters.	2-4 years Medium-Term	In-kind	MESWMCC/SWMD
To integrate Natural Capital Accounting within National Accounts to enable informed decision-making on matters impacting the environment.	To take stock of past studies on Natural Capital Accounting.	0 – 2 years Short-Term	5.2 (Donor funding to be explored)	MESWMCC/ Statistics Mauritius/MoFEPD
	To undertake a gap analysis on how to upscale existing measures on Natural Capital Accounting.			
	To hire international consultancy firms (with local counterpart) to undertake a study on how to enable the use of such frameworks for decision-making.			
	To hire an international consultancy firm to make recommendations on how to achieve carbon neutrality by 2070.	0 – 2 years Short-Term		
TOTAL			**5.2**	

6.1.4 Strengthening current development control mechanisms

Overarching Policies and Strategies 4				
Overarching Policy:	**To strengthen current development control mechanisms.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To develop a Strategic Environmental Assessment (SEA) Framework to enable the conduct and review of SEAs at district/ Local Authorities' jurisdictions and ultimately, allow developments only within the carrying capacity of ecosystems.	To conduct a study on the carrying capacity of ecosystems or downscaling of planetary boundaries to the local context so as to establish the limits/ safe space for development, with recommendations. To mainstream recommendations within existing planning instruments such as the NDS and the OPS.	2-4 years Medium-Term	0.54 Plus In-kind	MESWMCC and stakeholder Ministries
To legally protect and conserve all Environmentally Sensitive Areas (ESAs). For ESAs of prime importance situated in private domain, Government to acquire these and promote nature-based solutions as a strategy to enhance resilience to climate change impacts.	To take stock of the existing legal framework for the protection of ESAs. To formulate recommendations on appropriate/ enforceable legal frameworks to conserve ESAs. To explore means for Government to compulsory acquire ESAs on private lands and/or use other legal instruments like covenants and servitude to ensure the protection of ESAs without changing ownership.	0 – 4 years Short/Medium-Term	4.8 (as part of UNDP's Sustainable Land Management project)	MoAIFS, MBEMRFS, MHLUP, MESWMCC
To integrate ESAs in National Development Strategies and land-use planning processes and documents such as the Outline Planning Schemes (OPS).	To establish bilateral partnerships with the Ministry of Housing and Land Use Planning. To seek policy decision on the matter at the level of Cabinet.	2 - 4 years Medium-Term	In-kind	MESWMCC & MHLUP
TOTAL			**0.54**	

6.1.5 Strengthening environmental legislative and institutional frameworks

Overarching Policies and Strategies 5:				
Overarching Policy	**To strengthen environmental legislative and institutional frameworks.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To review, strengthen and harmonise the Environment Protection Act and other environmental laws along with re-engineered institutional frameworks for a more effective environmental management and protection, and stricter enforcement mechanism.	Hire a consultancy firm (legal expert and an institutional expert) to conduct a deep review of environmental governance in Mauritius and make recommendations accordingly.	0-2 years Short-Term (ongoing)	4	MESWMCC & UNDP CO
To formulate a Sustainable Development Framework and revamp the National Environment Commission into the National Environment and Sustainable Development Commission, and enlarge its portfolio to holistically plan and guide development across economic, social and environmental dimensions.	Hire the services of a legal consultant/ firm to conduct consultations and come up with recommendations and a draft Sustainable Development Framework.	4-5 years Long-Term	4.4	
To establish a Council of Professional Environmental Experts and Practitioners.	Conduct stakeholder consultations to formulate proposals on the scope, arrangements, tasks, composition, and structure of the council, draft proposal and legislation, and liaise with the council of engineers/ architects.	4-5 years Long-Term	In-kind	MESWMCC
To set up of an Environment Expert Group (Think Tank) comprising independent experts and practitioners under the MESWMCC to advise on issues with limited in-house expertise.	Initiate consultations on this proposal and seek legal advice thereon.	2 -4 years Medium-term	In-kind	MESWMCC, AGO
TOTAL			**8.4**	

6.1.6 Reinvigorating environmental stewardship at all levels

Overarching Policies and Strategies 6				
Overarching Policy:	**To reinvigorate environmental stewardship at all levels.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To implement a mandatory Environmental Charter for all public and private bodies that would define their engagement for the implementation of environmental measures, lowering of their carbon footprint and the establishment of a reporting mechanism.	To design a framework for the requirements and contents of an Environmental Charter.	0 – 2 years Short-Term	In-kind	MESWMCC
	To rope in private bodies to enter into an agreement (e.g. through a Memorandum of Understanding).			
	To evaluate the efficiency of this agreement and explore means to make it mandatory (e.g. through Regulations under the EPA).			
To enhance empowerment of stakeholders in protecting the environment.	Establishment of a forum for NGOs and social groups on environmental issues.	0 – 2 years Short-Term	In-kind	MESWMCC
	Encourage private sector support for NGOs and CSOs programmes on the environment.			
	Promote mechanisms for community watch.			
	Implement an Environmental Whistle Blower Programme.			
	Liaise with Village Councils in view of the creation of Environmental Clubs to spearhead village greening and monitor cleaning.			
	Setting up of Environmental Volunteers Programme.			
	Encourage creation of backyard/ kitchen gardens.			
To promote the greening of spaces in public and private institutions, including businesses and commercial activities.	Draft new Regulations under the EPA to compel businesses and commercial activities to undertake greening.	0 – 2 years Short-Term	In-kind	MESWMCC
To allocate/ acquire lands for the setting up of community gardens, green areas and health tracks in all villages and towns where there are no such facilities.	Liaise with Local Authorities to identify areas and undertake an evaluation of costs and other requirements.	0 – 2 years Short-Term	In-kind	MESWMCC & LA
	Implementation of measures.			
TOTAL			-	

6.1.7 Boosting environmental resources mobilisation for environmental protection

Overarching Policies and Strategies 7				
Overarching Policy:	**To boost environmental resources mobilisation for environmental protection.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To use innovative economic instruments and provide targeted fiscal incentives (e.g. crowdfunding, new forms of PPPs, green bonds) for environmental protection.	To review/ update the study on the scale of fiscal space for environment-related economic instruments. To develop green bonds with the Ministry of Financial Services and Good Governance (MFSGG). To establish new partnerships with financial institutions to develop such instruments. To establish a framework for crowdfunding for environmentally innovative measures.	2-4 years Medium-Term	Consultancy study plus In-kind	MESWMCC, MoFEPD, MFSGG, Donors
To restyle the "Corporate Social Responsibility" funding as the "Corporate Social and Environmental Responsibility" and include new eligible projects targeting a wider range of environmental issues.	To liaise with the National Social Inclusion Foundation for inclusion of new themes under the eligibility criteria for Corporate Social Responsibility.	0 – 2 years Short-Term	In-kind	MESWMCC & MoFEPD
To provide incentives and/or economic instruments for the greening of the transport sector.	To devise a transparent, specific and measurable mechanism for encouraging the use of green vehicles (e.g. hybrid and electric vehicles). To implement fiscal incentive measures recommended within the Global Fuel Economy Initiative project.	0 – 4 years Short to Medium-Term	In-kind	MESWMCC, MoFEPD, MLTLR
To introduce new fiscal measures such as private sector sponsorship to participate in activities related to frequent maintenance of public places and ecosystem services as well as the adoption of ESAs across the island.	To set up a committee with relevant stakeholders including Business Mauritius.	0 – 4 years Short to Medium-Term	In-kind	MESWMCC & MoFEPD
To establish a donors' coordination mechanism under the MESMWCC for a sustainable/ holistic approach in environmental protection and conservation.	To set up a committee to work on the modalities.	0 – 2 years Short-Term	In-kind	MESWMCC & MoFEPD

To task the MEAs Coordination Committee to explore all potential windows for optimal resource mobilisation from international funding institutions, donors, bilateral cooperation, and regional organisations to meet the requirements of global MEAs such as the United Nations Framework Convention on Climate Change, the Convention on Biological Diversity and the Stockholm Convention on Persistent Organic Pollutants.	To add this recommendation to the Mandate of the MEAs Coordination Committee.	0 – 2 years Short-Term	In-kind	MESWMCC
TOTAL			-	

6.1.8 Improving transparency and communication with stakeholders

Overarching Policies and Strategies 8				
Overarching Policy:	**To improve transparency and communication with stakeholders.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To set up an "*Observatoire de L'Environnement*" to monitor and communicate on the Environmental Performance Index (EPI)/ health of environmental media and share environmental practices.	To establish a list of environmental parameters to be included in the EPI.	Ongoing 0 – 2 years Short-Term	In-kind	MESWMCC
	To liaise and agree with other environment enforcing agencies on data to be communicated.			
	To establish an electronic platform for such communication.			
	To initiate data sharing on the Air Quality Index.			
TOTAL			-	

6.1.9 Enhancing applied research and innovation on environmental issues

Overarching Policies and Strategies 9				
Overarching Policy:	**To enhance applied research and innovation on environmental issues.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To establish a Science-to-Policy platform comprising relevant bodies, including the academia, to serve as an advisory body for improved environmental governance, evidence-based decision-making and adaptive management.	To coordinate/ compile a baseline of existing environmental data.	Ongoing 0 – 2 years Short-Term	In-kind	MESWMCC
	To explore ways to purchase such data if needed.			
	To devise a framework for the operation of the Science-to-Policy platform.			
	To formalise its set-up within the EPA.			
TOTAL			-	

6.1.10 Upscaling policies and measures in key sectors impacting the environment

Overarching Policies and Strategies 10				
Overarching Policy:	**To upscale policies and measures in key sectors impacting the environment.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To mitigate the environmental impacts associated with wastewater.	To assess the impact of wastewater on the ground water quality and coastal water quality in densely populated regions where sewerage networks do not exist.	0 – 5 years Short/ Long-Term	Cost to be catered for under the implementation of the sewerage programme	NEL, WMA
	To Implement sewerage networks in regions where wastewater are impacting on the ground water quality and coastal water quality.			
To mitigate environmental pollution and promote food safety by up-scaling sustainable agricultural practices for both crop and livestock sectors.	To establish a "sustainable supply chain" for food crops cultivated through sustainable agricultural practices.	0 – 2 years Short-Term	Cost to be catered for under the Ministry of Agro Industry and Food Security	MoAIFS
	To promote sustainable processing of livestock waste for bio-fertiliser production with a view to mitigate the leaching of nitrates into ground water and odour nuisances.			
	To encourage the recycling of animal waste for production of bio-fuel to mitigate GHG emissions.			
	To monitor GHG emissions from the livestock waste.			
	To strengthen access and capacity of farmers to acquire MauriGAP certification.			
	To formulate a legal framework to regulate the production and sales of agro-produce.			
To enhance environmentally sustainable practices in the tourism sector and promote new and green products to support responsible tourism.	To strengthen access and capacity for tourism operators to adopt the MS 165 Sustainable Tourism Standards developed by the MSB.	0 – 2 years Short-Term	Cost to be catered for under the Ministry of Tourism	TA
	To set up a mechanism to promote certified operations as 'green products'.			
	To promote sustainable procurement in the tourism sector.	0 – 2 years Short-Term		MoT

Overarching Policies and Strategies 10				
Overarching Policy:	**To upscale policies and measures in key sectors impacting the environment.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	To reinforce linkage with agriculture by promoting the agro-tourism concept such as sourcing of agro-produce *(produits du terroir et table d'hôte).*			
	To implement the action plan formulated for 'low carbon and resource efficient hotel accommodation'.	4 – 5 years Long-Term		MoT
To mitigate the impact of pesticides on the environment, including golf courses	To assess the impact of pesticides on the environment.	0 – 4 years Short/ Medium Term	Cost to be catered for under the Ministry of Agro Industry and Food Security	MoAIFS, MCIA
	To reduce the excessive use of chemical non-environmental friendly pesticides.			
	To promote a stop in the use of non-environment friendly pesticides.			
	To promote the use of biological green alternatives to chemical pesticides.			
TOTAL			-	

6.1.11 Mainstreaming gender

Overarching Policies and Strategies 11				
Overarching Policy:	**To mainstream gender into the environmental policies, legislations, programmes and action plans.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To enhance capacities for gender mainstreaming and women's empowerment in the environmental sector.	Undertake training and capacity needs assessment amongst officers in various authorities/ CSOs working in the environmental sector.	0 – 2 years Short-Term	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare

	Develop appropriate training and capacity strengthening programmes.	Ongoing	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare
To support and strengthen gender-responsive policy and research, and the availability of disaggregated data	Review the Gender Policy Statement to be aligned to the Multilateral Environment Agreements and the Sustainable Development Goals.	0 – 2 years Short-Term	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare
	Develop an Action Plan to address the gender gaps identified in the National Gender Policy.	0 – 2 years Short-Term	0.22	MESWMCC & Ministry of Gender Equality and Family Welfare
	Collect, analyse and publish sex disaggregated data using a gender lens.	Ongoing	In-kind	Statistics Mauritius
To enhance and sustain gender responsiveness in environmental sector	Conduct public education/ sensitisation and training on linkages between gender and the environment at all levels	Ongoing	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare
	Support innovative gender responsive environmental projects for sustainable development	0 – 4 years Short/ Medium-Term	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare
To enhance the establishment of a monitoring and evaluation system that supports gender mainstreaming in the environment sector.	Develop a monitoring and evaluation system, and use and track gender equality in programmes/ projects.	0 – 4 years Short/ Medium-Term	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare

	Build the capacity of officers and stakeholders on gender responsive monitoring and evaluation.	0 – 4 years Short/ Medium-Term	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare
To promote partnership and knowledge management on gender mainstreaming on environmental issues.	Identify and develop partnerships with key environmental partners such as the UNEP, the GEF, the JICA and the UNDP and the public sector involved in environmental issues for training and capacity building, and research activities.	Ongoing	In-kind	MESWMCC & Ministry of Gender Equality and Family Welfare
TOTAL			**0.22**	

6.2 Action Plan for Thematic Policies and Strategies for Mauritius

6.2.1 Action plan for "La culture environnementale"

LA CULTURE ENVIRONNEMENTALE				
Policy 1:	**To reach out to all stakeholders through *"une approche de proximité"* to inform and catalyse environmental responsible behaviours and actions.**			
Overarching Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Mainstream environmental concerns in our day to day life and inspire actions through aggressive and sustained sensitisation campaigns using, *inter alia*, digital means such as ICT (through Applications, social media, and other means, and encourage cultural tools such as songs, slams, slogans) to inform and activate pro-environmental attitudes and behaviours and actions.	Devise a new strategy and action plan for aggressive awareness campaigns *(Communication Specialist).*	0 – 2 years Short-Term	0.1	MESWMCC
	Develop sensitisation materials that touch the emotion of people (Consultancy Services of resource material designer at Rs200,000/ year for 5 years).	Ongoing 0 – 2 years Short-Term	1	MESWMCC
	Use other social media to disseminate environmental information/ events/ reporting on offences.	0 – 2 years Short-Term	In-kind	MESWMCC
	Adopt slogans such as *Mwa Osi Mo Kapav: servi poubel, netway mo kartie, inform mo bann vwazin, mo kamarad,* etc.	0 – 2 years Short-Term	In-kind	MESWMCC
	Design and implement a social media Application to post regular updates on environmental information/work of the Ministry and relevant institutions, invite ideas from citizens and showcase environmental protection initiatives *(Consultancy Services -social media App designer –Design, implement plus maintenance services).*	Ongoing 0 – 2 years Short-Term	1	MESWMCC
	Display environmental information on LED screens in banking institutions, Post Offices, Ministries, metro, telecom shops and hospitals, amongst others.	0 – 2 years Short-Term	In-kind	MESWMCC
	Produce and broad TV spots and cartoons on specific environmental themes during peak time to target maximum audience (Rs1,500,000 x 5 years).	Ongoing 0 – 2 years Short-Term	7.5	MESWMCC

LA CULTURE ENVIRONNEMENTALE					
Policy 1:	**To reach out to all stakeholders through *"une approche de proximité"* to inform and catalyse environmental responsible behaviours and actions.**				
		Organise songs and slam competitions on environment (sound system, venues and prizes).	0 – 2 years Short-Term	1	MESWMCC with private sector
		Produce and e-distribute a yearly calendar/ newsletter to showcase successful initiatives.	2 – 4 years Medium-Term	0.06	MESWMCC
		Conduct a roving exhibition on pertinent environmental issues to reach people living in remote area. (Low floor bus with all logistics such as screen, table, laptop, electronic display etc.).	4 – 5 years Long-Term	16	MESWMCC
		Organise shows/ talks by celebrities/ famous personalities (e.g. Greta Thunberg).	4 – 5 years Long-Term	2	MESWMCC/ MoFARIIT and Embassies
Development of materials/ tools to enhance knowledge and understanding on emerging challenges.		Produce resource materials such as posters, flyers, pamphlets, billboards, TV and radio clip on the specific issues. *(Rs2,000,000 for 5 years)*	Ongoing 0 – 2 years Short-Term	10	MESWMCC
TOTAL				**38.66**	

LA CULTURE ENVIRONNEMENTALE				
Policy 2:	**To establish partnerships with all social groups and organisations and enable a conducive environment to bring the needed change in mindset leading towards an ecological transition.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Develop mechanisms for promoting and supporting partnerships for environmental stewardship with the private sector, NGOs, Forces Vives, youth, women associations, senior citizens, farmers, fishers, religious bodies and other associations to adopt, promote, and implement environment friendly measures at grass root level.	Organise workshops for different target groups for focused sensitisation on specific issues relevant to their daily activities: *Year 1: Training for youth, farmers, members of religious bodies, members of NGOs/CBOs; and Year 2: Training for fishers, women, elderly and local community)- 8 trainings at Rs250 000.*	0 – 2 years Short-Term	2	MESWMCC

LA CULTURE ENVIRONNEMENTALE					
Policy 2:	**To establish partnerships with all social groups and organisations and enable a conducive environment to bring the needed change in mindset leading towards an ecological transition.**				
Strategy		**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
		Meetings/ sessions with religious bodies to sensitise their followers to support existing environment initiatives.	0 – 2 years Short-Term	In-kind	MESWMCC with Council of Religions
		Training of journalists on pertinent environmental issues *(1 batch each year - at Rs100,000 each).*	Ongoing 0 – 2 years Short-Term	0.2	MESWMCC with Press
		Enhanced collaboration with the private sector for the implementation of environmental projects such as tree planting of native/ endemic species, to increase carbon capture and clean air. (Provisions of plants).	0 – 2 years Short-Term	0.5	MESWMCC, BM, Private sector and funding institutions.
		Provide incentives (e.g. sale of bio-fertilisers at a cheaper price to farmers) to encourage the adoption of sustainable practices.	2-4 years Medium-Term	20	MESWMCC with MoAIFS and private sector
		Partner with Government and private institutions to organise an environment week in each village/ town and at national level. (*130 villages plus 4 Towns plus I City (Towns/City subdivided into 4 Canvass Areas) - 150 x Rs100,000).*	4 – 5 years Long-Term	15	MESWMCC with Local Authorities, private and public sector
Revival/ setting up of Environmental Clubs to encourage peer learning in schools, youth clubs, sports clubs, community centres, village halls, and Social Welfare Centres for the promotion of environmental measures such as community gardening, composting, clean ups and embellishment/ landscaping.		Work out and provide attractive incentives and support for each group.	2-4 years Medium-Term	100	MESWMCC with private sector and NGOs
		Organise seminars to empower the different groups for the implementation of environmental projects.	2-4 years Medium-Term	0.5	MESWMCC with private sector and NGOs
		Organise twining programmes for experience sharing with other countries *(Fees for air tickets accommodation etc.).*	4 – 5 years Long-Term	5	MESWMCC, MoFARIIT & Embassies/ Consulates
Organise inter villages/ towns competitions for clean-ups campaigns.		Organise intra village/ town competition on a yearly basis to select the greenest and best embellished yard/ premises (taking biodiversity aspect into consideration)	4 – 5 years Long-Term	7.5	LAs and private sector

LA CULTURE ENVIRONNEMENTALE					
Policy 2:	**To establish partnerships with all social groups and organisations and enable a conducive environment to bring the needed change in mindset leading towards an ecological transition.**				
Strategy		**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
		and eco-friendliest house. *(150 x Rs50,000 per village/Town/Canvass areas).*			
		Organise inter village/ town competitions to select the cleaner and greener village/ town.	4 – 5 years Long-Term	1	LAs and private sector
Promote community watch initiatives to facilitate reporting on environmental offences.		Encourage local communities to group themselves to track and report environmental offences. *(Workshops, posters, media coverage, etc. Rs500,000 per year over 2 years).*	2-4 years Medium-Term	1	MESWMCC with LAs and PF
TOTAL				**152.7**	

LA CULTURE ENVIRONNEMENTALE				
Policy 3:	**To review and update the curriculum and/or extracurricular activities (primary, secondary and tertiary) to instil the environmental culture.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Reviewing of school curriculum to prepare students to respond to the emerging environmental challenges.	Review school curriculum with respect to environmental issues at secondary (after grade 9) and tertiary levels.	Ongoing 0-4 years Short/ Medium-Term	In-kind	METEST, MIE with MESWMCC
	Develop and provide special training to teachers by trainers with environmental expertise to further environmental education.	2-4 years Medium-Term	0.2	METEST, MIE with MESWMCC
	Organise a training programme/ workshop or short seminar on environmental protection in all programmes run by tertiary institutions.	4 – 5 years Long-Term	In-kind	METEST and HEC with MESWMCC
Stimulating environmental education through "experiential learning - learning by doing" and outdoor activities such as beach watch, visit to nature reserves, ESAs, apiculture, permaculture, kitchen gardening and other community services.	Enhance competition-based learning for primary, secondary and tertiary levels (e.g. Flower Mauritius competition, essay competition, debate, brain trust competition, etc.) - *Rs1,000,000 per year over 5 years.*	Ongoing 0-5 years Short-Term	5	METEST with MESWMCC
	Promote outdoor learning through environmental projects and activities.	0 – 2 years Short-Term	In-kind	METEST with MESWMCC
	Introduce a mandatory environmental project at secondary level for completion of studies.	4 – 5 years Long-Term	In-kind	METEST with MESWMCC
TOTAL			**5.2**	

LA CULTURE ENVIRONNEMENTALE					
Policy 4:	**To revisit policies of institutions (such as schools, Government and private bodies, SMEs, industries and others) to encourage best environmental practices.**				
Strategy		**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
All institutions such as schools, Government and private bodies, SMEs and industries will be required to develop and implement an Environmental Charter including measures such as rainwater harvesting, rooftop gardening, efficient lighting, greening initiatives, reducing carbon footprint, recycling, sustainable transport, tree planting and plastic-free campaign.		Develop a general Environmental Charter which could be customised for the different institutions/ businesses to mainstream good environmental practices such as green procurement, paperless meeting, paperless administrative process, waste segregation, energy saving, water conservation and use of energy efficient vehicles, amongst others.	Ongoing 2-4 years Medium-Term	In-kind	MESWMCC with EM and Private/Public Sector
		Encourage all institutions/ businesses to develop/ revisit their Charter in line with the general charter, by providing incentives.	2-4 years Medium-Term	In-kind	MESWMCC with EM and Private/Public Sector
		For new businesses, a moratorium period of one year to be provided to come up with an approved Environmental Charter for renewal of their trade licence.	2-4 years Medium-Term	In-kind	MESWMCC with LAs
		Come up with a certification system to ensure the implementation of the measures proposed in their respective charter.	4 – 5 years Long-Term	2	MESWMCC with MSB
TOTAL				**2**	

LA CULTURE ENVIRONNEMENTALE					
Policy 5:	**To empower different target groups through environmental education, training and awareness on topics such as climate change, coastal zone management, pollution prevention, biodiversity, waste management, and sound environmental practices, and their interconnections.**				
Strategy		**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Create a pool of Environment Champions to disseminate environmental information and to empower different target groups and encourage the adoption of eco-friendly attitude, behaviour and actions.		Organise "train the trainers" sessions for empowering youth leaders, NGOs, Community Based Organisations, CAB Officers, Social Welfare Officers and women, and hold regular sessions for their groups, on pertinent environmental issues. *8 trainings at Rs250 000.*	0 – 2 years Short-Term	2	MESWMCC, donors and Private sector
		Promote networking with national/ regional/ international pool of expertise in environmental fields.	0 – 2 years Short-Term	In-kind	MESWMCC with donors and MoFARIIT
		Request the trainers to train their peers and provide them with appropriate resource materials through an MOU.	0 – 2 years Short-Term	In-kind	MESWMCC
		Organise refresher course for the trainers at regular intervals.	4 – 5 years Long-Term	1	MESWMCC with MoFARIIT, donors and Private Sector
TOTAL				**3**	

LA CULTURE ENVIRONNEMENTALE					
Policy 6:	**To mainstream environmental considerations in decision-making at the level of policymakers.**				
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**	
Policy 6 is a cross-cutting issue that is being captured under overarching policies.					

LA CULTURE ENVIRONNEMENTALE				
Policy 7:	**To encourage, support and disseminate research on environmental culture at different levels in the Mauritian population.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Encourage inter and cross disciplinary research on environmental issues, with the potential to render regenerative processes leading to positive local and/or national economic and social benefits.	To develop a research agenda after consultation with relevant stakeholders. ***Note:*** *This action is being dealt under Observatoire de Recherche en Environnement with the University of Mauritius.*	Ongoing 0-4 years Short/ Medium-Term	In-kind	HEC and MRIC
	Promote research in environmental fields which have national and social benefits by providing attractive package (*In terms of scholarship to students doing PHD in environmental fields).*	2-4 years Medium-Term	10	HEC, MRIC and MoFARIIT
	Secure avenues for research with regional/ international agencies/ institutions (*working sessions*).	4 – 5 years Long-Term	In-kind	HEC and MRIC
	Disseminate the outcome of the research.	4 – 5 years Long-Term	In-kind	HEC and MRIC
Identify and study the gaps in pro-environmental attitude and population behaviour and devise appropriate responsive measures.	Commission study(ies) to identify gaps in pro-environmental attitude and population behaviour and devise appropriate responsive measures.	2-4 years Medium-Term	1	HEC and MRIC
TOTAL			**11**	

6.2.2 Action plan for "Urbanisme et politique environnementale"

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 1:	**Ensure harmonised, inclusive and participatory land-use and environmental planning, aligned with the SDGs, using robust planning tools.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Develop a SEA Framework to assess the carrying capacity for various geographical areas in Mauritius (region-wise or catchment wise).	1. Develop a TOR for the legal and institutional frameworks for SEAs. 2. Undertake a bidding exercise. 3. Recruit consultants for the project. 4. Set-up an inter-ministerial committee to steer the project. 5. Approval of the framework by Government. 6. Transcription in the EPA. 7. Capacity building on SEA at all levels (institutional, private sector and local authorities) through tailor-made online courses, workshops and assessments.	2-4 years Medium-Term	55	MESWMCC
	1. Identify sectors to undertake carrying capacity studies such as hotels, *morcellement*, Property Development Scheme (PDS), smart cities and industrial development (e.g. foundries, poultry, stone crushing, incinerator), amongst others. 2. Develop a TOR for undertaking carrying capacity study for development across the island according to the jurisdiction of the Outline Planning Scheme. 3. Undertake a bidding exercise. 4. Recruitment of consultants for the project. 5. Setting up of an inter-ministerial committee to steer the project. 6. Approval of the study by Government. 7. Transcription in the Outline Planning Scheme.	2-4 years Medium-Term	70	MESWMCC & MoFEPD
	Review and establish well-defined setbacks and buffer zones for sensitive areas and bad neighbourhood development. This task to be carried out during the review of the National Development Strategy.	0 – 2 years Short-Term	captured in NDS review	MHLUP

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 1:	**Ensure harmonised, inclusive and participatory land-use and environmental planning, aligned with the SDGs, using robust planning tools.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance multi-stakeholder consultation at permitting and licensing phase (e.g. EIA and BLUP) and strategic assessment.	Proponents/ consultants to undertake mandatory public consultation for projects requiring EIAs and amendment of section 19(1)(b) of EPA to cater for above.	0 – 2 years Short-Term	In-kind	MESWMCC
	Undertake mandatory public consultation during the preparation of the National Development Strategy - This task to be carried out during the review of the National Development Strategy.	0 – 2 years Short-Term	In-kind	MHLUP
Harmonise land-use planning with national and international environmental policies, strategies and goals.	Align the National Development Strategy and its planning tools (Outline Planning Scheme/ Planning Policy Guidance) with SDG 11. This task to be carried out during the review of the National Development Strategy.	0 – 2 years Short-Term	In-kind	MHLUP
Review and adapt PPGs to the SDGs with the aim of ensuring resilient and inclusive communities.	1. Review PPGs to harmonise settlement areas and enhance resilience, inclusiveness and preparedness to natural disasters. 2. Undertake a consultative workshop on the project. 3. Undertake a bidding exercise. 4. Recruitment of consultants for the project. 5. Setting up of an inter-ministerial committee to steer the project. 6. Undertake a Validation Workshop. 7. Approval of the framework by Government. 8. Transcription in the OPS/ PPG. 9. Capacity building at all levels through tailor-made online materials. 10. Establish a compliance mechanism for the amended PPGs.	2-4 years Medium-Term	60	MHLUP, LAs
Mitigate environmental impacts and enhance human wellbeing by improving connectivity and mobility.	1. Develop a framework to reduce commuting by promoting initiatives such as 'work from home', transit-oriented development, location of services and infrastructure. 2. Setting up of ICT Systems and upgrading of infrastructure to facilitate connectivity and work from home.	2-4 years Medium-Term	15	MLHRDT, MPSAIR MITCI, MESWMCC
TOTAL			**200**	

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 2:	**Ensure resilient development through the protection and valorisation of Environmentally Sensitive Areas (ESAs).**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Harmonise and strengthen existing legislative and institutional frameworks for a coherent approach towards the protection and valorisation of ESAs.	1. Review and update the ESA study for enhanced protection and management of ESAs. 2. Undertake ground-truthing exercises to assess the ecological importance of ESAs. 3. Develop ESA restoration programmes. 4. Develop a programme for research and educational activities around ESAs. 5. Develop capacity building programmes for all stakeholders involved in the protection of ESAs. 6. Undertake consultative workshops. 7. Undertake a bidding exercise. 8. Recruitment of consultants for the project. 9. Setting up of an inter-ministerial committee to steer the project. 10. Undertake a Validation Workshop. 11. Approval of the framework by Government. 12. Transcription in relevant acts, policy tools and planning guidance. 13. Mapping of ESAs in Outline Planning Schemes (in inset plans).	4 – 5 years Long-Term	60	MESWMCC
	1. Review and update the existing draft ESA Bill in a participatory approach, and include legal measures to conserve ESAs on private lands (easements and covenants). 2. Consultation process through meetings and workshops. 3. Working sessions with the Attorney General's Office. 4. Approval by Government. 5. ESAs Act promulgated.	4 – 5 years Long-Term	1.5	
	1. Establish an interim ESA Clearance Mechanism to be governed by relevant enforcing authorities (Enforcing Agencies) prior to the seeking of development licenses by promoters for any development in the vicinity of ESAs. 2. Conduct inter-ministerial meetings and consultations with the Attorney General's Office.	4 – 5 years Long-Term	1.5	MESWMCC

	3. Review the responsibilities of authorities in the protection of each ESA. 4. Work out the clearance mechanism through consultative workshops. 5. Introduce an ESA Clearance Mechanism in relevant Acts.			
Promote multi-stakeholder participation for the restoration of ESAs.	Implement ESAs restoration programmes using ecosystem-based approach through multi-stakeholder participation (e.g. Enforcing Agencies, private sector, CSR initiatives, GEF Small Grant Programme, NECCF).	4 – 5 years Long-Term	100 (Rs50 million per ESA)	MESWMCC
	Implement research and educational activities around ESAs in collaboration with the academia and research institutions.	2-4 years Medium-Term	In-kind	MRIC, MIE
	Capacity building to be sustained through training of trainers' programme.	2-4 years Medium-Term	1	MPSAIR
TOTAL			**164**	

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 3:	**Ensure inclusive and transparent decision-making in the environmental assessment process.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance transparency of the Environmental Licensing System.	1. Review the list and scale of undertakings requiring EIA Licenses and PER Approvals by setting up Technical Committee/ Technical Advisory Committees (TACs) for each undertaking. 2. Amendment to the EPA. 3. Develop guidelines for each undertaking.	4 – 5 years Long-Term	Payment of members and chairperson	MESWMCC
	1. Review the discretionary powers of the Minister in the EIA process by making the relevant amendments to the EPA. 2. Meeting with the Attorney General's Office.	0 – 2 years Short-Term	In-kind	MESWMCC
	1. Review the appeal process to ELUAT for decisions on EIA and PER. 2. Meeting with the Attorney General's Office.	0 – 2 years Short-Term	In-kind	AGO
TOTAL			-	

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 4:	**Promote ecosystem-based and strong sustainability approach to development for an ecological transition and for building resilient communities.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance the protection of ecosystems.	1. Develop Natural Resource Accounting as a key environmental planning tool for informed decision-making. 2. Recruit consultants to develop Natural Resource Accounting. 3. Data collection and analysis. 4. Inter-Ministerial Committee to provide data and oversee progress. 5. Undertake Validation Workshop. 6. Approval of the tool by Government.	4 – 5 years Long-Term	10	SM, MESWMCC, MoFEPD
Promote the use of Environmentally Sensitive Areas as part of nature-based solutions.	1. Each authority to be responsible to undertake the exercises based on the responsibility assigned under the ESA clearance mechanism. 2. To be undertaken as part of the ESA Study Review.	4 – 5 years Long-Term	In-kind	All relevant authorities as per their mandate
TOTAL			**10**	

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 5:	**Empower authorities and stakeholders involved in development for robust planning, implementation, enforcement and monitoring.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Streamline roles and clarify responsibilities of stakeholders involved in development planning.	1. Review institutional mechanism to streamline roles and responsibilities of all stakeholders. 2. Short consultancy exercise to review the institutional mechanism of all authorities involved in development planning.	2-4 years Medium-Term	Consultancy costs	MoFEPD/ EDB
	1. Enforcement of legal provisions for pulling down illegal constructions (e.g. on river reserves, wetlands and in other ESAs).	0 – 2 years Short-Term	In-kind	MoLGDRM, LAs
Formulate and sustain technical capacity building programmes for all actors involved in land-use, environmental planning and monitoring, for a more resilient development.	1. Develop tailor-made training programmes for planning, enforcement and monitoring in collaboration with the CSCM, Open University or other academic institutions. 2. Ensure sustained capacity building of technical staff.	0 – 2 years Short-Term	1	MPSAIR, CSCM
	1. Provide adequate staffing and resources in all departments concerned with planning and permitting.	2-4 years Medium-Term	50	MPSAIR, MoFEPD
	1. Acquire digital tools (GIS, drones, etc.) and develop applications for mapping, monitoring and enforcement.	2-4 years Medium-Term	50	MITCI, all concerned stakeholders
TOTAL			**101**	

URBANISME ET POLITIQUE ENVIRONNEMENTALE				
Policy 6:	**Increase green cover and promote human wellbeing through inclusive and nature-based solutions.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Increase green spaces and tree cover in urbanised public areas by at least 10%.	1. Create urban wellness parks. 2. Identify areas, including consideration for land acquisition, for the creation of wellness parks. 3. Invite the private sector to submit proposals on how to create the wellness parks. 4. Maintenance of parks.	4 – 5 years Long-Term	50 (Rs10 million per park)	MoAIFS, LAs, MESWMCC, MHLUP
Use abandoned agricultural lands for alternative activities.	1. Develop a policy and legal framework for the use of abandoned agricultural lands.	2-4 years Medium-Term	In-kind	MoAIFS
Promote sustainable practices in the community.	1. Support sustainable development practices through fiscal incentives and development of specific schemes (to promote sustainable initiatives, retrofitting for green buildings, endemic gardens, roof gardens, rainwater harvesting, renewable energy, composting and recycling, among others). 2. Develop project proposals for each item. 3. Hold consultative meetings and workshops.	0 – 2 years Short-Term	5	MoFEPD, LAs
Promote sustainable urban drainage systems centred on nature-based solutions.	1. Consultancy services for the development of guidelines/ best practices to encourage the promotion of soft infrastructure such as swales, artificial wetlands, and retention ponds for enhanced drainage. 2. Hold consultative meetings and workshops.	2-4 years Medium-Term	5	MNICD, LDA, NDU
TOTAL			**60**	

6.2.3 Action plan for "Le changement climatique"

Note: All the costs associated with the Action plan for *"Le changement climatique"* are captured under NDC.

LE CHANGEMENT CLIMATIQUE				
Policy 1:	**Enhance the resilience of Mauritius through a regional and water catchment approach to climate change by promoting preferably nature-based solutions taking into consideration Natural Capital Accounting and by adopting a ridge-to-reef approach in all initiatives related to climate action.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
As part of a ridge-to-reef approach, encourage nature-based solutions in all infrastructural development projects to mitigate inland flooding, coastal inundation, and drought, and to address lagoonal sedimentation.	Undertake workshop to raise awareness of key stakeholders on the ridge-to-reef approach and adoption of nature-based solutions in all development projects at all levels to preserve and restore ecosystems.	0 – 2 years Short-Term	0.1	MESWMCC
	Hold dialogues with public and private stakeholders to explore mobilisation of funding for the preservation and restoration of: (i) water catchment and integrated river/ water resource management to avoid/ limit damaging intake (sediments, pollutants, freshwater intake) into the lagoon; (ii) lagoon and coastal biodiversity as natural protection against coastal erosion; and (iii) coral reefs as they act as a natural protection against storm surges by breaking waves.	0 – 2 years Short-Term	In-kind	NPCS MBEMRFS
Mainstream climate change in the development control process by integrating Environmentally Sensitive Areas in the National Development Strategy and Outline Planning Scheme (wetland survey initiated).	• Map all ESAs (those not covered under ongoing projects) by trained officers and classify them in terms of the degree of vulnerability. • Consolidate existing maps and produce ESAs maps for each Local Authority.	0 – 2 years Short-Term	0.5 * (On-going)	MoAIFS, NPCS
	Integrate ESA maps in the National Development Strategy, Outline Planning Scheme and the Building and Land Use Permit.	0 – 2 years Short-Term	In-kind	MHLUP
Assess ecosystems services (both in physical and monetary terms) in coastal development projects (EIA and PDS projects) and ensure their integration.	• Capacity building workshops, by hiring a consultant, for stakeholders on Natural Capital Accounting for the assessment of ecosystems services. • Review Universities' Curricula to include Natural Capital Accounting by holding working sessions.	0 – 2 years Short-Term	0.2 First phase	MoAIFS (NPCS) UoM

Enhance preparedness to deal with risks from climate change including review of existing early warning systems and the setting up of additional ones.	Capacity building workshop to empower Local Authorities to use maps of Environmentally Sensitive Areas when processing application of Building and Land Use Permit.	0 – 2 years Short-Term	0.1 Phased	MoLGDRM
	Make available the existing and new maps of Environmentally Sensitive Areas to all stakeholders including the public (printing of maps).	0 – 2 years Short-Term	0.4	MoLGDRM
	Develop sensitisation materials to inculcate a risk-conscious culture and produce information to mainstream risks in key sector policies by the NDRRMC and the consultant.	0 – 2 years Short-Term	AFD funding	MoLGDRM
	Establish Self-Safe Community Operational Action Plans (SSCOP) at local level jointly with Local Authorities and the NDRRMC through guidance from the Consultant to improve the capacity of the local community to cope with natural disasters.	0 – 2 years Short-Term		MoLGDRM
	Assess and improve early warning systems for cyclones, torrential rain and storm surges at local and national levels together with Local Authorities, the NDRRMC, the Mauritius Meteorological Services and the consultant.	0 – 2 years Short-Term		MoLGDRM
TOTAL			**1.3**	

LE CHANGEMENT CLIMATIQUE				
Policy 2:	**Accelerate mainstreaming of climate change in key sectors of the economy such as agriculture, fisheries, tourism, public infrastructure (schools, hospital, etc.), building, coastal zone, water, health, energy, transport, waste, industry, land-use planning and disaster risk reduction.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Assess and develop adaptation and mitigation plans in key sectors, namely, energy, transport, waste, industry, land-use planning, infrastructure, water, agriculture, fisheries, tourism and coastal-zone and health. For example, by promoting Eco-Tourism as an entry point in the tourism industry.	Identify focal points in each sector to undertake coordination with concerned sectors on devising strategies, and developing adaptation and mitigation plans and implementation.	0 – 2 years Short-Term	In-kind	MESWMCC
	Undertake vulnerability assessment of the agricultural sector (flora and fauna) to the impacts of climate change through training in vulnerability assessment and analysis processes and quality assurance by SADC expert.	0 – 2 years Short-Term	SADC RVAA	
	Prepare a strategic plan on food security by hiring consultant and in consultation with Vulnerability Assessment (VA) Committee.	0 – 2 years Short-Term	0.74	
	Develop adaptation and mitigation plans for key sectors identified in the Mauritius NDCs in consultation with stakeholders and consultants.	0 – 2 years Short-Term	*Funding secured AFD, GEF, GCF*	
	Develop consolidated plans for mitigation and adaptation namely, the National Mitigation Strategy and Action Plan and National Adaptation Strategy and Action plan and any other sectoral plans by hiring consultant and implementing agencies.	2 – 4 years Short/ Medium-Term	5 or Other windows	MESWMCC
Develop tools to carry out vulnerability and risk assessment as well as carbon footprint assessment.	By hiring experts and in consultation with stakeholders to: (i) refine existing tools for vulnerability and risk assessment in the relevant sectors or develop new ones; and (ii) develop tools for carbon footprint assessment in the relevant sectors.	0 – 2 years Short-Term	Funding secured under AFD-Review of the NDC	MESWMCC
	Update the Vulnerability Assessment guideline for the agricultural sector.	0 – 2 years Short-Term	0.37	MoAIFS

Enhance capacity of stakeholders to undertake vulnerability and risk assessment and adaptation as well as assess carbon footprint and develop mitigation measures.	Undertake a post disaster needs assessment and recovery through the hiring of a consultant.	0 – 2 years Short-Term	0.37	MoLGDRM
TOTAL			**6.48**	

LE CHANGEMENT CLIMATIQUE				
Policy 3:	**Reduce our reliance on fossil fuel by 2050, promote the use of renewable energy, and encourage energy efficiency, e-mobility, bio-farming, integrated waste management (circular economy).**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Evaluate mitigation potential and identify strategic priorities for urgent mitigation actions and expansion of renewable energy technologies.	With the assistance of hired local and international experts and in collaboration with stakeholders to: - (i) carry stocktaking for each mitigation sector; (ii) evaluate mitigation potential and assess strategic priorities for each sector; (iii) identify concrete mitigation actions and develop national mitigation scenarios; (iv) develop mitigation prioritisation framework based on, *inter alia*, technology deployment; (v) develop an Enhanced Transparency Framework (ETF) to effectively track and transparently report on mitigation actions; and (vi) set up a national registry (web based) to act as a repertoire for mitigation.	0 – 2 years Short-Term	GEF NAMA Project	MESWMCC
Promote eco-friendly institutions/ buildings at all levels by adopting best practices.	Greening of the Ministry of Environment, Solid Waste Management and Climate Change to reduce environmental impacts, as a pilot project for the greening of the Civil Service, through a roadmap comprising the following: - (i) setting up a sustainability cell; (ii) carrying out an audit of the different buildings/ offices; (iii) preparation of awareness materials for sensitisation; (iv) training of staff; (v) development of a guideline/ charter for implementation of actions; and (vi) funding for sustainability.	0 – 2 years Short-Term	1 First phase	MESWMCC

	Implement the roadmap by adopting a policy measure for greening of the public sector.	0 – 4 years Short/ Medium-Term	5	All Ministries
	Develop a guideline together with the MEPU (EEMO) and MNICD, in consultation with stakeholders, to adopt green building best international practices (such as the use of recycled steel as sustainable building material, lower volatile organic compounds paints, indoor greening and green roof systems "roof top gardening", rain water harvesting and purification systems, commercial solar panel car ports to provide covered parking and integrated charging stations for electric vehicles, and use of climate friendly refrigerant in refrigeration and air conditioning system). *Installation of rooftop solar PV for 10,000 households (low-income group). Install 2,000 kits each year, hence 10,000 by 2024.* ***Note:** Currently there is a specific list of duty exemptions on electric cars – more 'subsidies' may need to be precisely defined, which would in turn be subject to policy decisions.*	0 – 4 years Short/ Medium-Term	In-kind	MESWMCC to lead, with MPSAIR, MoFEPD, MIDSMEC, MoCCP, Individuals and LAs
Improve access to grid to individuals, industries and others to sell excess renewable energy produced.	Improve grid absorption capacity (through installation of battery).	0 – 2 years Short-Term	GCF funding	CEB
	Allow grid connectivity to individual and industries ***Note:** Battery Energy Storage Systems are being installed under the GCF Energy Project to raise the acceptable level by 125 MW so that, in total, 185 MW of intermittent renewable energy can be connected to the grid without jeopardising grid stability.*	0 – 2 years Short-Term		
Promote greening of the land transport sector	Training on eco driving - a collection of driving behaviours and maintenance practices that can improve the fuel efficiency of driving.	0 – 2 years Short-Term	0.1	MITD
	Set up a working group to monitor progress on policy measures for the greening of the transport sector: (i) Provide subsidies for electric cars powered by renewables.	0-4 years Short/ Medium-Term	In-kind	MNICD, MLTLR, NLTA , MRA, MoFEPD

	(ii) Establish entry fee in Port Louis. (iii) Enhance parking infrastructure to promote mass transport (bus, LRT) (P*arking and ride facilities being included in the Metro Express Project).* (iv) Purchase hybrid vehicles for the Government sector. (v) Set up a dedicated lane for sustainable vehicles (for charging). (vi) Set up a dedicated lane for pedestrian and sidewalks/ cycle tracks. (vii) Provide incentives to bus operators for setting up of photovoltaic farms. *(This will be subject to the successful completion of the UNDP/GEF pilot project 'Promoting Low-carbon Electric Public Bus Transport in Mauritius').* ***Note**: Currently there is a specific list of duty exemptions on electric cars – more 'subsidies' may need to be precisely defined, which would in turn be subject to policy decisions.*			
Promote smart agriculture namely, bio-farming and composting of livestock waste.	Develop sustainable and natural farming practices for crop and livestock production and on farm sale.	2-4 years Medium-Term	Being covered under the Switch Africa Green Project	MoAIFS, FAREI
	Update husbandry practices guidelines to include the developed techniques to be used by Extension Officers to guide planters and farmers.			
	With respect to GHG modelling for the livestock sector, optimise and alternate feed types and amounts for enclosed livestock to minimise enteric fermentation and maximise output per tonne of GHGs.	2-4 years Medium-Term		MoAIFS, FAREI
	Develop an incentive scheme to encourage planters of small plot of lands to plant energy crops/ bio-fuel crops such as bamboo or eucalyptus, which have the potential to contribute to the biomass share.	2-4 years Medium-Term	To be taken up under the Biomass Framework	MoAIFS, FAREI
	Undertake talks in Farmers' Service Centres and distribute pamphlets to encourage composting of livestock waste at farmers' level.	2-4 years Medium-Term	Ongoing projects by FAREI	MoAIFS, FAREI

	Use solar water pump coupled with a pressurised irrigation system.	2-4 years Medium-Term	To secure funding under national budget	MoAIFS, FAREI
Promote sustainable waste management through circular economy	Prepare resource materials for key target groups on the importance of diverting organic wastes for composting.	0 – 2 years Short-Term	In-kind	SWMD
	Undertake awareness campaigns through talks and radio programmes on the circular economy concept.	0 – 2 years Short-Term	Ongoing campaign	MESWMCC
TOTAL			**6.1**	

LE CHANGEMENT CLIMATIQUE				
Policy 4:	**Increase the sink capacity through greening of our towns and villages.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Promote wide participation for the establishment of green corridors/ belts on the motorway, preservation and enhancement of river reserves, mountain slopes, and creation of new green spaces and parks in all towns and villages.	Undertake awareness campaigns in Community Centres together with village councillors and CSOs to mobilise youth, women, and senior citizen participation on massive greening.	0-2 years Short-Term	0.2	MESWMCC, Private sector, NGOs, CSOs, Village councillors, FAREI
	Designate lands for the creation of parks in all localities.	0-2 years Short-Term	In-kind	
	• Capacity building to empower inhabitants to produce cuttings of fruit trees and other hardy plants at space available on their premises for dissemination in the greening campaign of the Forestry Service. • A *modus operandi* to be worked out to sell the seedlings to Government, as a way to enhance livelihood and food security.	0-2 years Short-Term	1 First phase	
Creation of green spaces in all development projects and replace each tree cut by at least three (3) similar trees.	Review all development permit system to impose a condition to plant at least three (3) similar trees for each tree cut down for development projects - Criteria to be included in EIA process.	0 – 2 years Short-Term	In-kind	MESWMCC, FS, LAs
	• Develop a software and online system at Local Authority level for public reporting on tree cut and replaced, as well as a compilation for monitoring compliance, enforcement and reporting to the Climate Change Committee. • Enforcement by enforcing agencies for non-compliance and immediate actions and fines to act as a deterrent.	0 – 2 years Short-Term	2	Forestry Service
Enhance forest cover, greenbelts and blue carbon sink, including mangroves propagation.	Identification of bare State land/ waste land for allocation and construction of new nurseries for plant propagation, including of mangroves, fruit and food trees.	0 – 2 years Short-Term	5	FS, MHLUP
	Develop a production and distribution plan for donation of plants for household and commercial activities for greening of all available spaces, as collective national action to be monitored by village councillors.	0 – 2 years Short-Term	2	MESWMCC, FS, MBEMRFS

	Organise mangrove plantation activities with the civil society, fishers, planters, youth, women and local communities.	0 – 2 years Short-Term	In-kind. On-going activities by AFRC	MBEMRFS, MESWMCC, NGOs
	Promulgate a regulation to specify the area to be allocated for green space for each construction project (household, commercial building).	0 – 2 years Short-Term	In-kind	LAs
	Enhance forest canopy through the plantation of endemic plants. In line with the Afforestation Programme, reforestation of previously clear-felled forests areas and filling of gaps in existing plantations are being done.	2-4 years Medium-Term	In-kind	FS
Create green corridors/ belts on the motorway, and preserve and enhance river reserves, mountain slopes and coastal stretches.	Agreement with private sector and NGOs to produce seedlings of selected plants for planting on mountain slopes for bee keeping and other activities to enhance livelihood.	0 – 2 years Short-Term	0.1 First phase	FS, Private Sector, NGOs
	Establish a working arrangement with private nurseries to propagate fruit and food trees for planting on river reserves and walking tracks.	0 – 2 years Short-Term	0.1 First phase	MESWMCC, FS
	Develop a programme for planting fruit or other trees adapted for creating green corridors along roadsides for cycling, including on coastal stretches. ***Note:*** *Afforestation Programme, tree planting in urban areas and roadsides are ongoing. To discuss on modalities with concerned stakeholders for funding during the second phase.*	0 – 2 years Short-Term	0.1 First phase	MESWMCC, FS
TOTAL			**10.5**	

LE CHANGEMENT CLIMATIQUE				
Policy 5:	**Enhance/ strengthen governance on climate change and empower more institutions to undertake climate change adaptation, disaster risk reduction and mitigation measures.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enforce the Climate Change Act.	Conduct a gaps and needs assessment for the operationalisation of the Department of Climate Change and other institutions by seeking funding from donor agencies.	Ongoing	5	MESWMCC
Build capacity of stakeholders (including CEOs, Directors, and politicians) for the implementation of commitments taken by Mauritius in international fora including at COP meetings, Councils and Summit, in line with the Climate Change Act.	Strengthen institutional arrangements by the setting up of dedicated units on climate change within relevant public and private institutions to address climate change issues in a coordinated manner.	0 – 2 years Short-Term	Funds from Government Budget	Sectoral Ministries, MoFEPD & Civil Service College
	Raise awareness of decision-makers on key challenges and international climate change policies and risk reduction.	0 – 2 years Short-Term	2.5 (part of planned capacity building)	MESWMCC
Ensure that climate change, disaster risk reduction and ecological risks are integrated in the decision-making process of all institutions including Government institutions, NGOs, Local Authorities and the private sector.	Launching of the mobile game - Mission 1.5°C which is an online platform to educate people about climate policy and enable them to vote on climate change solutions.	0 – 2 years Short-Term	Climate Promise Project UNDP	MESWMCC
	Educating stakeholders about the NDCs commitments and climate action emergency, including disaster risk reduction.	0 – 2 years Short-Term		
	Relocate and upgrade the Climate Change Information Centre to enhance awareness raising among key stakeholders and the general public.	0 – 2 years Short-Term	2 (funds being sought)	
	Formalise the protocol for sharing of information on best practices through signing of MOUs with relevant institutions.	2-4 years Medium-Term	In-kind (may be captured under the NDCs registry under NAMA)	MESWMCC
Train and empower stakeholders to formulate project proposals for accessing innovative climate finance.	Capacity assessments for key institutions to access funding and implement projects by identifying appropriate local or international expert(s).	0 – 2 years Short-Term	5 EU assistance of Euro 100 000t	MESWMCC and MoFEPD
	Capacity building workshops on formulation of climate change project proposals for representatives of relevant stakeholders in Mauritius and Rodrigues.	0 – 2 years Short-Term	0.76 (UK funds) Support from National Adviser on Climate Finance	MESWMCC/MoFEPD
TOTAL			**15.26**	

LE CHANGEMENT CLIMATIQUE					
Policy 6:	**Strengthen partnerships on climate change issues at national, regional and international levels.**				
Strategy		**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance private sector and donor agencies partnership involvement in mobilising climate finance.		Establish incentive schemes targeted at the private sector to encourage uptake of climate friendly technology in the Refrigeration and Air Conditioning sector.	0 – 2 years Short-Term	In-kind	MoFEPD
		Develop innovative financial mechanisms similar to Sustainable Use of Natural Resources and Energy Finance (SUNREF) that enhance public, private and donor agencies partnership initiatives as well as provide credit lines to finance green projects.			
		Provide an incentive framework to enhance private sector investment.			
Promote collaboration with foreign research institutions to enhance local research on climate change.		Undertake research locally on sustainable development and climate change projects through the twining and signing of MOUs with foreign research institutions.	0 – 2 years Short-Term	In-kind	MRIC
Strengthen networking and collaboration among all stakeholders at national, regional and international levels.		Create an interactive web platform on climate change whereby the public and private sectors and the civil society can post/ share best practices on climate change for replication.	2-4 years Medium-Term	In-kind	MITCI MESWMCC
		Use organisations such as the Indian Ocean Rim Association to strengthen collaboration with other SIDS/ developing countries to address similar climate change challenges.	2-4 years Medium-Term	In-kind	IORA, MoFARIIT
Total				-	

LE CHANGEMENT CLIMATIQUE				
Policy 7:	**Ensure/ integrate a human rights-based approach to all climate change actions.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance civil society participation in decision-making processes, access to information and effective remedies for victims.	Engage stakeholders such as Government, the private sector, NGOs, CSOs and CBOs, Youths, Women's Association, Academia, Vulnerable Community Groups, for examples, planters, fishers and coastal communities in decision-making through appropriate networking forum (e.g. NNSD).	0 – 2 years Short-Term	In-kind	MESWMCC NHRC
	Enlist the support of the media (TV, radio, newspapers) for TV/ radio programmes and spots (environment and climate-friendly tips) and the publication of articles at regular intervals on climate change and human rights for mass sensitisation and awareness raising at the grass root level.	0 – 2 years Short-Term	2	MESWMCC NHRC
	Holding of Working Group committees jointly with the International Migration Organisation for the implementation of the Migration, Environment and Climate Change (MECC) Action Plan in collaboration with relevant stakeholders to respond to climate-related displacement and internal migration (within ROM).	0 – 2 years Short-Term	In-kind	MESWMCC IOM (PMO)
Promote research and advocacy to address human rights harms to groups in vulnerable situations.	Conduct an analytical study on the relationship between climate change and human rights in Mauritius and make recommendations.	2-4 years Medium-Term	0.3 (external sources)	MRIC/ Academia
	Multi-stakeholder panel discussion on the impacts of climate change on the full enjoyment of human rights.	2-4 years Medium-Term	In-kind	NHRC MESWMCC
TOTAL			**2.3**	

6.2.4 Action plan for "Zones côtières et environnement marin"

ZONES COTIERES ET ENVIRONNEMENT MARIN				
Policy 1:	**To use a ridge-to-reef approach and enhance resilience of the coastal ecosystems to the impacts of natural hazards.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Establish managed retreat to allow adaptation and resiliency measures.	Establish a mandatory setback for new applications for coastal construction up to 100 m from the HWM/ coastline, except in cases of essential coastal road infrastructure and national security measures and taking into consideration site specificities –propose that this space be declared public.	0 – 2 years Short-Term	In-kind	MHLUP, MESWMCC, BA
	Review leases on *Pas Géométriques*/ coastal zones with beach seafront to remove the retaining of hard structures within 30m from the HWM in cases of reconstruction of hotels, campements and other buildings (subject to a review of legal implications). ***Note:*** *The Ministry of Housing and Land Use Planning has informed that this can be applied only in cases where there is complete demolition of existing structures prior to reconstruction/ renovation and has to be dealt with on a case-to-case basis as there may be legal implications.*	0 – 2 years Short-Term	In-kind	
	Hold consultation meetings with stakeholders to fine tune details on the implementation of 100m setback from the HWM.	0 – 2 years Short-Term	In-kind	
	Amend the PPG to provide for the proposed setback from the HWM.	0 – 2 years Short-Term	In-kind	
Promote coral reef restoration.	Carry out studies on species of corals which are resilient to temperature changes, silt load and acidity.	2-4 years Medium-Term	10	MBEMRFS
	Carry out coral plantation of these species of corals.	2-4 years Medium-Term		

	Carry out monitoring and maintenance of the coral plantations.	2-4 years Medium-Term		
	Coastal hotels to carry out regular ecosystem surveys and coral restoration where required in partnership with local communities, through 'Adopt a coral colony initiative'.	2-4 years Medium-Term		
Implement innovative and more sustainable site-specific nature-based/ hybrid coastal protection measures and restoration of beach profiles.	Establish management and technical guidelines for mangrove/ seagrass/ coral plantation.	0 – 2 years Short-Term	20 (Rs10M/year)	MBEMRFS, BA, NPCS, MESWMCC
	Carry out a survey to identify places where mangroves/ seagrasses can be planted.	0 – 2 years Short-Term		
	Setting up of a nursery for mangrove propagules and seagrasses.	0 – 2 years Short-Term		
	Carry out plantation of mangroves/ seagrasses at appropriate sites.	0 – 2 years Short-Term		
	Pursue with reef restoration through the plantation of corals at identified appropriate places.	0 – 2 years Short-Term		
	Review of legislation to protect the sites where plantations (mangroves/ corals/ seagrasses) are being carried out.	0 – 2 years Short-Term		
	Carry out monitoring and maintenance of the plantations and enforcement of the legislation.	0 – 2 years Short-Term		
	Restore the native coastal dune vegetation and wetlands.	0 – 2 years Short-Term		
	Consider construction of rocky outcrops and sandy coves.	0 – 2 years Short-Term		
	Place permeable wooden barriers at the limit of the dynamic beach zone to restrict vehicular access thereon.	0 – 2 years Short-Term		BA, Hotels, Campement owners
	Establish dedicated parking areas and zoning for different activities.	0 – 2 years Short-Term		
	Carry out regular beach maintenance through: - • burial of corals and seagrasses/ algae which end up at the HWM/ beach escarpments and above the highest	0 – 2 years Short-Term		

	high-water HWM or recommend that they should be put back in the lagoon; • burial of leaves collected on the public space within the public beaches or alternatively carry out composting of the collected leaves and use the compost within the public space; and • maintain vegetation cover at all times on the public spaces/ beaches and the dynamic beach zones.			
	Undertake coastal protection and rehabilitation works to address beach erosion.	On-going	Rs100 M/ year ***(*captured under NDC as Government funding)***	MESWMCC
TOTAL			**30**	

ZONES COTIERES ET ENVIRONNEMENT MARIN				
Policy 2:	**To ensure that livelihood and development in the coastal zone are sustainable.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Strengthen legislation and enforcement.	Review, strengthen and harmonise the legislative framework and planning instruments such as the PDA, the EPA, the PPG and legal instruments regarding good agricultural practices, etc.	4 – 5 years Long-Term	In-kind	MHLUP, MESWMCC
	The new NDS under review should develop clear strategies for sustainable development in the coastal zone for compliance through specific relevant policies translated in the OPS.	4 – 5 years Long-Term	In-kind	MHLUP MESWMCC
	Recruit additional staff to carry out enforcement of the legislation at all levels.	0 – 2 years Short-Term	In-kind	MESWMCC and other Government bodies
	Amend Regulations for dolphin and whale watching to include turtles or prescribe new Regulations for turtles (no feeding of turtles).	4-5 years Long-Term	In-kind	TA
Develop guidelines/ protocols for best practices within coastal zones.	Draft/ review guidelines and protocols for best practices within the coastal zone.	0 – 2 years Short-Term	In-kind	MESWMCC

	Carry out public consultation with stakeholders on the content of the guidelines.	0 – 2 years Short-Term	In-kind	
	Publish the guidelines.	0 – 2 years Short-Term	In-kind	
	Carry out continuous sensitisation/ awareness raising on the guidelines.	0 – 2 years Short-Term	In-kind	
Carry out a study on carrying capacity of the coastal zone.	Draft the Terms of reference for the study on carrying capacity of the coastal zone to determine the threshold for development and appropriate zoning/ Marine Spatial Plan.	2-4 years Medium-Term	100	MESWMCC
	Recruit a team of consultants to carry out surveys and make recommendations.	2-4 years Medium-Term		
	Integrate and harmonise the findings of the study in the Marine Spatial Plan and the NDS.	2-4 years Medium-Term		
Restore access to the beach and along the shoreline.	Carry out a survey of the coastline to identify potential accesses and open up existing accesses to the beach.	2-4 years Medium-Term	In-kind	MHLUP
	Implement compulsory provision of access on the HWM at sites where access is hampered by the presence of retaining walls.	2-4 years Medium-Term	In-kind	
	Carry out consultation with stakeholders to come up with a policy on the implementation of the policy on access and implement same.	2-4 years Medium-Term	In-kind	
	Ensure compliance to legislation with respect to access along public domain.	2-4 years Medium-Term	In-kind	
Proclamation of new public beaches and creation of coastal parks within coastal ESAs to allocate more space for public use.	Carry out a survey to identify uncommitted *Pas Géométriques*/ State land/ coastal ESAs which can be proclaimed as public beaches/ coastal parks.	0 – 2 years Short-Term	In-kind	MHLUP, MESWMCC
	Proclamation of the sites as public beaches/ coastal parks.	0 – 2 years Short-Term	In-kind	MHLUP, MESWMCC
	Manage development in remaining unbuilt coastal belts (from Gris Gris to La Cambuse).	0 – 2 years Short-Term	In-kind	MHLUP, MESWMCC

	Manage public access in coastal parks.	0 – 2 years Short-Term	In-kind	MHLUP, BA, MESWMCC
Green the coastal zone.	Pursue with plantation of native/ endemic plants/ trees within the coastal zone.	2-4 years Medium-Term	20 (Rs10M/year)	MESWMCC
	Promote green fencing instead of concrete boundary walls for dwellings within the dynamic beach zone.	2-4 years Medium-Term		MESWMCC
TOTAL			**120**	

ZONES COTIERES ET ENVIRONNEMENT MARIN					
Policy 3:	**To restore biodiversity in the coastal zone.**				
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Allow regeneration of coastal ecosystems.	Carry out surveys in the lagoon to identify areas which are degrading and require urgent protection.	2-4 years Medium-Term	In-kind	MBEMRFS, MoT, TA
	Draft appropriate legislation to restrict nautical activities, fishing and swimming over certain period of time in parts of the lagoon to allow regeneration of the coastal ecosystems.	2-4 years Medium-Term	In-kind	
	Promulgate legislation and carry out enforcement of same.	2-4 years Medium-Term	In-kind	
	Creation of Marine Protected Areas for the protection of sensitive ecosystems.	2-4 years Medium-Term	In-kind	
	Set up a pool of voluntary Sea Rangers who can assist the NCG in enforcing the legislation, and sensitise the population on the importance of marine ecosystems.	2-4 years Medium-Term	In-kind	
	Impose speed limits in the lagoon at all times except for rescue operations.	2-4 years Medium-Term	In-kind	
	Initiate a phased-ban on the sale and use of non-reef friendly sun creams.	2-4 years Medium-Term	In-kind	

Ban destructive fishing practices in the lagoon.	Phase out progressively, the use of large nets and other destructive fishing practices in the lagoon and set out target dates.	0 – 2 years Short-Term	In-kind	MBEMRFS
	Monitor activities within the lagoon for compliance.	0 – 2 years Short-Term		
Minimise land-based sediment load in the lagoon.	Restore/ create coastal wetlands.	0 – 2 years Short-Term	20 (Rs10 M/ year)	NPCS/ MoAIFS
	Provide vegetation buffers along watercourses, among others.	0 – 2 years Short-Term		
	Develop guidelines on good agricultural practices and implement these.	0 – 2 years Short-Term		
	Carry out sensitisation of planters on good agricultural practices.	0 – 2 years Short-Term		
	Implement regional Sustainable Urban Drainage System (SUDS) that includes creation of wetlands, bio-retention areas, infiltration trenches and detention ponds.	0 – 2 years Short-Term		
Enhance protection and management of islets and outer islands.	Review and update Task Force report on Islets.	2-4 years Medium-Term	In-kind	MoAIFS
	Review and implement the recommendations of the Islet Management Plans (16 Islet Nature Parks/ Nature Reserves).	2-4 years Medium-Term	Cost to be catered at level of relevant authority	
	Draft management plans for all remaining islets, as well as for St Brandon and Agalega.	2-4 years Medium-Term	In-kind	
Enhance research and consolidate the existing databases and knowledge on the coastal zone through better collaboration with research institutions.	Compile information/ data on existing researches.	0 – 2 years Short-Term	In-kind	MBEMRFS, MESWMCC, MOI, CSMZAE
	Identify gaps in terms of missing data for the coastal zone.	0 – 2 years Short-Term	In-kind	
	Collect the missing data.	0 – 2 years Short-Term	5	
	Create/ update databases and input in GIS or online platforms.	0 – 2 years Short-Term	In-kind	
	Carry out public scientific assessments of the negative impacts of in-lagoon aquaculture farms.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	
TOTAL			**25**	

ZONES COTIERES ET ENVIRONNEMENT MARIN				
Policy 4:	**To preserve and enhance collaboration and commitment from all stakeholders acting in the coastal zone.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Strengthen coordination among organisations having mandate in the coastal zone.	Review the mandate of the ICZM Committee.	0 – 2 years Short-Term	In-kind	MESWMCC
	Review the legislation to enable the ICZM Committee to have sub-committees on specific themes/ issues and to be able to discuss and implement recommendations made on specific matters.	0 – 2 years Short-Term	In-kind	
	• Establish an Integrated Coastal Zone Management Department to ensure that management of all activities are undertaken in a holistic, effective and efficient manner. OR • Set up a "Conservatoire du Littoral" as in France ("Conservator of the Coast"), a public body that manages and buys back, for conservation, portions of the coastal zone from private owners and leaseholders. The goals will be as follows: - (i) preserving natural landscapes and remarkable and threatened landscapes; (ii) maintaining a balance in the coastal zone, taking climate change into account and ensuring its sustainable and integrated management with local partners; (iii) ensuring the public's access while respecting the sites to raise awareness of environmental preservation; and (iv) ensuring the sustainable development for all the activities seen on the sites (agriculture and heritage management). ***Note:*** *This is also repeated in the cross-cutting issues.*	2-4 years Medium-Term	Cost to be catered at level of relevant authority	

Reinforce human resources and undertake capacity building for organisations mandated to act in the coastal zone.	Carry out a study on the capacity needs of all Ministries and organisations involved in coastal zone management.	0 – 2 years Short-Term	5	MESWMCC
	Provision of human, equipment and financial resources to all Ministries and organisations involved in coastal zone management.	0 – 2 years Short-Term	10 (Rs5 M/ Year)	MESWMCC and other Government bodies
Improve public participation in the EIA process for coastal zone projects.	Additional information received for an EIA report to be posted on the Ministry's website and public requested to submit views and comments.	0 – 2 years Short-Term	In-kind	MESWMCC
TOTAL			**15**	

ZONES COTIERES ET ENVIRONNEMENT MARIN				
Policy 5:	**To improve education and awareness on the coastal zone at all levels.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Conduct aggressive and innovative (songs/ drama) sensitisation campaigns.	Use recommendations made by past studies such as RECOMAP (a regional programme for the sustainable management of the coastal zones of the countries of the Indian Ocean) to devise innovative sensitisation campaigns.	0 – 2 years Short-Term	In-kind	MESWMCC
	Encourage coastal stakeholders, including hotels, to consider not using plastic bottles in view of promoting a plastic-free environment.	0 – 2 years Short-Term	In-kind	
	Develop materials/ tools to enhance knowledge and understanding on emerging challenges related to climate change and coastal zone management.	0 – 2 years Short-Term	In-kind	
	Empower schools and universities with regard to dedicated communication and awareness campaign on the protection of coastal and marine ecosystem.	0 – 2 years Short-Term	In-kind	
	Encourage education and management programmes and create awareness through social media.	0 – 2 years Short-Term	In-kind	
	Provide sufficient and adequately sized bins for segregated waste on public beaches and put up information and sensitisation boards.	0 – 2 years Short-Term	5	BA
TOTAL			**5**	

ZONES COTIERES ET ENVIRONNEMENT MARIN				
Policy 6:	**To enhance resilience of the coastal zone to anthropogenic impacts.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Encourage tourism activities inland and outside the lagoon.	Promote the development of eco-lodges and agri-solar farms by small farmers/ planters on abandoned sugar field lands.	0 – 2 years Short-Term	In-kind	MoT, TA, BA
	Restrict motorised nautical activities in the lagoon.	0 – 2 years Short-Term	In-kind	
	Restrict motor vehicle mobility within public beaches/ open spaces.	0 – 2 years Short-Term	In-kind	
	Devise traffic schemes in coastal areas to encourage cycling.	0 – 2 years Short-Term	In-kind	
Ensure sound wastewater management.	Coastal apartment blocks, guesthouses, hotels below 50 rooms to implement collection, treatment and disposal systems in conformity with the legal and regulatory frameworks.	0 – 2 years Short-Term	In-kind	MEPU
	Closely monitor discharge of brine from desalination plants.	0 – 2 years Short-Term	In-kind	
Restore natural endemic coastal vegetation.	Rotate enclosures on public beaches for 1-2 years to enable the trees to grow.	0 – 2 years Short-Term	20 (Rs10 M /year)	BA
	Replace fallen/ dead trees and exotic trees within coastal zones with appropriate native coastal vegetation.	0 – 2 years Short-Term		
Ensure sustainable development including aquaculture and fishing practices.	Provide economic support programmes to help local fisherfolk transition to sustainable outer lagoon fishing or to convert into sustainable lagoon tour operators.	0 – 2 years Short-Term	In-kind	MBEMRFS
	Restrict in-lagoon aquaculture farms.	0 – 2 years Short-Term	In-kind	
TOTAL			**20**	

6.2.5 Action plan for "Biodiversité et ressources naturelles"

BIODIVERSITE ET RESSOURCES NATURELLES				
Policy 1:	**To ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation, and that any legitimate loss of ecosystem services be compensated accordingly, using Strategic Environmental Assessment and Natural Capital Accounting.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Mapping, ranking and demarcation of biodiversity conservation zones.	Setting up of a committee with all stakeholders to identify the biodiversity conservation zones.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Based on the recommendation of the committee, biodiversity conservation zones will be demarcated by the Ministry of Housing and Land Use Planning.	2 – 5 years Medium/ Long-Term	Cost to be catered at level of relevant authority	MoAIFS
	Reclaiming of river reserves, *pas géométriques*, sand dunes and seagrass beds among others, by encouraging authorities and all stakeholders to initiate restoration of these areas, including by planting native trees (including endemic).	2 – 5 years Medium/ Long-Term	Cost to be catered at level of relevant authority	MoAIFS
	Identification and proclamation of new areas for the setting up of conservation areas (e.g. Port Louis/ Moka/ Bambous range, St. Brandon, Mourouk and marine areas).	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
Reviewing of existing development mechanisms for the protection of biodiversity including improving development control through the integration of biodiversity in EIA and BLUP.	Undertaking a Strategic Environmental Assessment on biodiversity conservation to guide current and future development, which is harmonised with climate change policies.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Developing guidelines to assess the biodiversity component within an undertaking under the EIA process.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	A No Net Loss to biodiversity policy at minima and a Net Gain to Biodiversity policy at best, either on site or as a compensatory mitigation measure offsite, should be adopted for all projects in the licencing and permitting process.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	Integrate Natural Capital Accounting in the National Accounts.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS

	Adopt sectoral policies and plans that are evidence-based and for the common good and incorporate Natural Capital Accounting.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
Preserving biodiversity.	Enhancing control of access to all protected areas. Security to be strengthened at all protected areas.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	Strengthening protection of native (including endemic) species, ecosystems and functional biodiversity, at the same time stopping and avoiding use of invasive and potentially invasive alien species.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	Securing and improving conservation strategies and evidence-based actions in existing conservation areas.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS

BIODIVERSITE ET RESSOURCES NATURELLES				
Policy 2:	**To increase awareness, participation and engagement of stakeholders at all levels for biodiversity conservation.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Promote public awareness on biodiversity.	Developing an effective biodiversity communication mechanism and awareness strategy for Government, the private sector and civil society for fully informed decision-making at all levels and towards sustainable use of natural resources and conservation of biodiversity.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	Setting up of a volunteer's/ citizen science service for biodiversity conservation.	0 – 2 years Short-Term	In-kind	MESWMCC
	Setting up an Environmental Charter including biodiversity and climate change.	0 – 2 years Short-Term	In-kind	MESWMCC

BIODIVERSITE ET RESSOURCES NATURELLES				
Policy 3:	**To improve, coordinate and harmonise institutional and legislative frameworks as well as enhance accountability and transparency, and effective enforcement of biodiversity conservation.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Strengthen institutions and legislations for effective and efficient enforcement of biodiversity protection.	Reviewing and creating tools to ensure enforcement of legislations pertaining to biodiversity preservation.	4 – 5 years Long-Term	In-kind	MoAIFS
	Strengthening capacity and cooperation of resources for all stakeholders including for example, the National Parks and Conservation Service, the Forestry Service, NGOs and private sectors.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority (Around Rs3 M)	MESWMCC
	Encouraging use of technological tools (like drones and satellite images) for real time data for better enforcement.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority (Around Rs6 M)	MESWMCC
Total			**9**	

BIODIVERSITE ET RESSOURCES NATURELLES				
Policy 4:	**To provide financial support and fiscal incentives to the private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To devise financial and fiscal tools to help promote biodiversity conservation among the private sector and Civil Society Organisations and ensure coordination between funders for effective use of resources.	Reviewing of fiscal incentives and dis-incentives to favour and reward biodiversity conservation.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Developing and adopting a financial resources mobilisation strategy and action plan, targeting all potential public and private sources, leading to substantial increase based on accountability and transparency for funding of biodiversity relevant projects.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Ensuring coordination between funders for effective use of resources.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Amending CSR guidelines to include components on biodiversity conservation.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	Increasing participation of NGOs and other CSOs.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
	Encouraging voluntary investment from the private sector for biodiversity conservation.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Undertaking valuation of ecosystems services (including future scenarios) for informed policy making.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS

BIODIVERSITE ET RESSOURCES NATURELLES				
Policy 5:	**To promote research and baseline data, and access to such data to support evidence-based policy and management of biodiversity.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To facilitate access to information related to research on biodiversity conservation to policymakers.	Developing a monitoring mechanism for the collection of biodiversity data and increasing awareness and training for open data (from Government agencies, research institutions and others).	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Reviewing priority areas for research funding to include aspects of native biodiversity such as taxonomy, ecology, conservation.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Improving existing regional platform for sharing of best practices and data on biodiversity.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Marketing Mauritius as a training hub for global biodiversity in the world.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Encouraging collaboration with regional and international academia (including creating clear and transparent research permission system) and participating in centres and networks of excellence.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS

BIODIVERSITE ET RESSOURCES NATURELLES				
Policy 6:	**To secure existing biodiversity conservation areas and create new ones across the Republic of Mauritius.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To increase resilience of our biodiversity across Mauritius with harmonisation.	Securing and improving conservation strategies and evidence-based actions in existing conservation areas.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Increasing the use of efficient bio control for native biodiversity conservation.	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MoAIFS
To harmonise human activities including socialisation with nature.	Implementing a mechanism such as agro-forestry for biodiversity-friendly use or re-afforestation of abandoned land (using species that are not or have the potential to become invasive).	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS
	Creating recreational or leisure parks.	0 – 4 years Short/ Medium-Term	Cost to be catered at level of relevant authority	MoAIFS

6.2.6 Action plan for "Lutte contre la pollution"

LUTTE CONTRE LA POLLUTION				
Policy 1:	**Strengthen and harmonise policies and legislative and institutional frameworks, as well as enforcement on pollution prevention and control.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Reinforcement of integrated approaches to pollution prevention and control.	Reinforcement of existing coordinating mechanism (e.g. Environment Coordination Committee, Environment Liaison Officers Meeting, National Environment Commission) to promote integrated approach to pollution prevention and control.	0 – 2 years Short-Term	7 (Rs3.5 M/year)	MESWMCC
	Reinforce capacity of Enforcing Agencies for more efficient enforcement (e.g. equipment, personnel, training, and laboratories).	0 – 2 years Short-Term	50	Each Enforcing Agency
	Empower Enforcing Agencies for more prompt/ more effective responses through recruitment and capacity building on enforcement (approx. 4 workshops).	0 – 2 years Short-Term	40 (Rs20 M/year)	Enforcing agencies
	Demarcate responsibilities of Enforcing Agencies regarding the overlapping of legislation (e.g. water pollution and vehicle wreck on bare lands or roadside) through multi-stakeholder consultations.	0 – 2 years Short-Term	In-kind	MESWMCC
	Intensify enforcement operations regarding neighbourhood noise, bare lands, plastic pollution, and effluent discharge.	0 – 2 years Short-Term	In-kind	Each Enforcing Agency
	More rigorous development control on activities and hours of operation (e.g. desilting of rivers, operation of stone crushing plants, and laundries).	0 – 2 years Short-Term	In-kind	MoLGDRM
	Enforce the Pesticide Act.	0 – 2 years Short-Term	In-kind	MoAIFS
	Promote best practices in agriculture through the adoption of good agricultural practices, sustainable consumption and production practices, and decreased use of plastic in agriculture (e.g. in pineapple cultivation). Introduction of legislation to reduce food wastage, strengthen the existing sensitisation campaigns and register sellers of agricultural products for traceability of products.	2-4 years Medium-Term	5	MoAIFS

	Decentralise enforcement for more prompt interventions (recruitment of consultant to review institutional and infrastructural framework for enforcement).	4 – 5 years Long-Term	100	MESWMCC
Amend and harmonise existing environmental legislation as well as develop new ones for specific cases.	Review and update the penalty structure for environmental offences to reflect the present socio-economic realities.	0 – 2 years Short-Term	In-kind	MESWMCC
	Amendment and harmonisation of existing legislative framework to avoid duplication and overlapping of responsibilities (consultancy service for review of environmental legislative framework).	2-4 years Medium-Term	3	MESWMCC
	Development of new legislation/ Regulations for medium that is not presently being enforced (e.g. odour, vibration, ESAs, and wetlands).	2-4 years Medium-Term	In-kind	MESWMCC
Optimise the use of information and communication technologies for more effective enforcement.	Use of safe city cameras for tracking of offenders.	0-2 years Short-Term	In-kind	PdL
	Setting up of a mobile application to ease enforcement together with its legal provisions for admissibility in court.	0 – 2 years Short-Term	3	PdL
	Improving community watch across the island (including publication of pamphlets and logistics).	0 – 2 years Short-Term	2	PdL
	Mapping of pollution sites and flagging after clean-up using GIS tools.	2-4 years Medium-Term	10	MoLGDRM
	Setting up of an Environmental Whistle Blowing Programme and facilitating community participation with proper post monitoring and adopting a reward mechanism.	4 – 5 years Long-Term	10	MESWMCC
Create a tripartite (public, private and NGOs) partnership.	Setting up of appropriate platforms or fora for discussion on environment-related issues to facilitate communication, mediation and information sharing.	2-4 years Medium-Term	1	MESWMCC
TOTAL			**231**	

LUTTE CONTRE LA POLLUTION				
Policy 2:	**Holistically address pollution in air, noise, water and land for the wellness of citizens.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Setting up of an Environmental Quality Index for air, fresh water and sea water to improve the understanding of the relationship between environmental conditions and human health.	Development of an air quality index, enhancing capacity of stakeholders for ambient and stack air monitoring, and provision for reporting mechanism.	2-4 years Medium-Term	75	MESWMCC
	Development of a freshwater quality index, enhancing capacity of stakeholders for better monitoring, and provision for reporting mechanism including recruitment of consultant.	2-4 years Medium-Term	25	MEPU/ MoAIFS
	Development of sea water quality index, enhancing capacity of stakeholders for better monitoring and provision for reporting mechanism including recruitment of consultant.	2-4 years Medium-Term	25	MBEMRFS
	Development of soil quality index, enhancing capacity of stakeholders for better monitoring, and provision for reporting mechanism including recruitment of consultant.	2-4 years Medium-Term	25	MoAIFS
	Establishment of a real time online monitoring system for industrial areas and city centres including acquisition of appropriate equipment.	4 – 5 years Long-Term	100	MESWMCC
Addressing vehicular emissions (smoke and noise) holistically.	Amendments to Road Traffic Act and associated legislation for more stringent penalties and effective enforcement.	0-2 years Short-Term	In-kind	MLTLR
	Sustain enforcement and crackdown operations by a dedicated unit.	0-2 years Short-Term	In-kind	PdL
	Strengthening of staff at the level of enforcing authorities.	0 – 2 years Short-Term	10	Enforcing Agencies
	Carry out aggressive sensitisation campaigns on vehicular emission and its health impacts (development/ distribution of sensitisation materials, use of logistics, etc.).	2-4 years Medium-Term	15	MESWMCC
	Setting up of a high-level committee with concerned stakeholders for the implementation of the recommendations under the Global Fuel Economy Initiative (GFEI) Project.	2-4 years Medium-Term	2	MESWMCC

LUTTE CONTRE LA POLLUTION				
Policy 2:	**Holistically address pollution in air, noise, water and land for the wellness of citizens.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Conduct epidemiological studies to identify most-polluted zones.	4 – 5 years Long-Term	10	MESWMCC, MoHW
Improving management of wastewater disposal.	Amendment to existing legislation and harmonise accordingly, including review of the penalty structure and the fiscal systems in place.	0 – 2 years Short-Term	In-kind	MEPU
	Close monitoring by the Enforcing Agency for industries that generate large amount of effluents (adoption and dissemination of implementation of best practices by industries).	0 – 2 years Short-Term	In-kind	MEPU, BM, MCCI, MEXA, AMM
	Setting up of an enforcement team at the level of the Enforcing Agency for prompt and effective enforcement regarding effluent discharge (beyond the WMA sewer network).	0 – 2 years Short-Term	10	MEPU
	Enhance partnership with all industries to ensure that they do not pollute water resources through cleaner production techniques, Regulations, economic instruments and water quality monitoring.	2-4 years Medium-Term	In-kind	MEPU
	Promote research on innovative water treatment technologies, water conservation techniques, sustainable re-use of treated wastewaters, and nature-based solution.	2-4 years Medium-Term	20	MEPU
	Extend the existing Wastewater Master Plan to cover the whole island as far as technically feasible (priority to be given to coastal areas and high-water table areas) ***Note:*** *Implementation may extend beyond 2030.*	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	MEPU
	Improve the wastewater treatment plant so as to ensure that leachates from Mare Chicose Landfill are properly treated before being discharged.	4-5 years Long-Term	Cost to be catered at level of relevant authority	SWMD
Deterring land pollution at source.	Amendment and harmonisation of legislation on bare lands, for example, on timeframe for compliance of notices and penalty structures.	0 – 2 years Short-Term	In-kind	MoLGDRM

LUTTE CONTRE LA POLLUTION				
Policy 2:	**Holistically address pollution in air, noise, water and land for the wellness of citizens.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Amendment to the Local Government (Dumping and Waste Carriers) Regulations 2003 for more stringent penalties for littering and dumping.	0 – 2 years Short-Term	In-kind	MoLGDRM
	Setting up of a Land Information Department to facilitate exchange of information for identification of bare lands (staffing, database, and surveyor, etc.).	0 – 2 years Short-Term	10	RG
	Sensitisation on bare lands	0 – 2 years Short-Term	2	MoLGDRM
	Empowering Local Authorities in terms of staffing, recruitment of surveyors, and logistics (lorries, equipment etc.).	0 – 2 years Short-Term	200	MoLGDRM
	Ensure sustained enforcement and reporting by enforcing authorities.	0 – 2 years Short-Term	In-kind	MoLGDRM
	Provision of a dedicated space for "*déchetteries*", scrap yards, construction wastes and used batteries.	2-4 years Medium-Term	200	SWMD
	Set up a high-level meeting on bare lands and littering with stakeholders to look into and follow up on: ▪ intensified enforcement campaign regarding bare lands and littering; ▪ setting up of a dedicated team to monitor bare lands at the level of Local Authorities; ▪ sub leasing bare lands for cultivation and community gardens, etc.; and ▪ launching of anti-littering campaign and related sustained sensitisation.	2-4 years Medium-Term	5	MESWMCC
	Local Authorities to work together with the AGO and *Associations des Notaires de L'ile Maurice/Chambre des notaires* to look into the possibility of amending the Notaries Act and related Acts to impose an obligation on notaries to inform the Local Authorities of any change in land ownership.	2-4 years Medium-Term	In-kind	MoLGDRM

LUTTE CONTRE LA POLLUTION				
Policy 2:	**Holistically address pollution in air, noise, water and land for the wellness of citizens.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Setting up of a platform for networking among public and recyclers.	2-4 years Medium-Term	5	SWMD
	Setting up of a programme for regular and sustainable cleaning of rivers, drains, canals and their respective buffers by the Enforcing Agencies.	2-4 years Medium-Term	500	MoLGDRM
Addressing noise nuisances	Maintain police presence during weekends at problematic places (Flic en Flac and Grand Baie).	0 – 2 years Short-Term	In-kind	PF
	Operationalise a second shift of *Police de L'Environnement* to enable patrol and prompt intervention at night subject to staff reinforcement.	0 – 2 years Short-Term	In-kind	PF
	Develop an action plan for noise to address nuisances arising from bungalows, dog barking, entertainment areas, night clubs, fireworks, entertainment halls and aircraft (recruitment of consultant).	2-4 years Medium-Term	3	MESWMCC, MoHW
	Amend existing legislation (including review of the penalty structure) as per recommendation of the action plan for noise.	2-4 years Medium-Term	In-kind	MESWMCC
TOTAL			**1242**	

LUTTE CONTRE LA POLLUTION				
Policy 3:	**Limit bad neighbourhood activities and enhance mitigating measures.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Improve demarcation and zoning for polluting activities.	Develop guidelines/ criteria for siting/ expansion of industrial/ polluting and bad neighbourhood activities.	0 – 2 years Short-Term	2	MESWMCC in collaboration with MHLUP, MIDSMEC and other stakeholders
	Development of a strategic plan for polluting activities, including clustering of industrial activities and bad neighbourhood activities away from residential development.	2-4 years Medium-Term	2	MESWMCC in collaboration with MHLUP, MIDSMEC and other stakeholders
	Carry out a survey to review buffer zone limits for bad neighbourhood activities.	2-4 years Medium-Term	2	MESWMCC in collaboration with MHLUP, MIDSMEC and other stakeholders
	Carry out an in depth study on the impacts of existing polluting activities located close to residential areas and come up with a strategy to relocate these polluting activities, where required.	4 – 5 years Long-Term	2	MESWMCC in collaboration with MHLUP, MIDSMEC and other stakeholders
Enhance landscaping and greening around Mauritius.	Establish criteria for and create green belts around 'polluting' industries.	0 – 2 years Short-Term	In-kind	MHLUP
	Embellish green landscapes and secure affected areas (e.g. areas prone for dumping) with the collaboration of the private sector and NGOs.	Medium-Term	5	MoLGDRM
Introduce a Strategic Environmental Assessment framework and make SEA mandatory for land use planning.	Develop Strategic Environmental Assessment (SEA) plans/ projects having significant environmental impacts (recruitment of consultant and holding of workshops).	2-4 years Medium-Term	2	MESWMCC
Review the list of undertakings requiring EIA licenses and PER Approvals.	Setting up of a platform (public, private and NGOs) to discuss on the polluting industries that could be listed as undertaking requiring an EIA or a PER.	0 – 2 years Short-Term	In-kind	MESWMCC

	Amendment to the Fifth Schedule of the Environment Protection Act 2002 to include other major polluting activities, e.g. shopping malls).	0 – 2 years Short-Term	In-kind	MESWMCC
TOTAL			**15**	

LUTTE CONTRE LA POLLUTION				
Policy 4:	**Inculcate environmentally-responsible behaviour at all levels, including public and private sectors as well as the general public**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Promote environment community policing across the island.	Carry out sensitisation campaigns with Police Neighbourhood Officers (NO) at all Police Stations involving community representatives to address issues such as vehicular emissions, neighbourhood noise, backyard burning, sugarcane burning, dumping and littering, amongst others and their respective penalties.	0 – 2 years Short-Term	1	PdL
Empower industries and target groups to adopt eco-friendly behaviour and actions.	The Ministry of Industrial Development, SMEs and Cooperatives to encourage the greening of industries by monitoring and periodically reporting the implementation of the new Industrial Policy and Strategic Plan (IPSP) (2020-2025).	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	MESWMCC In collaboration with MIDSMEC and other stakeholders
Optimise the use of the Citizen Support Portal (CSP) for a culture of proximity.	Setting up of a platform of CAB officers and all Enforcing Agencies to discuss difficult complaints cases.	0 – 2 years Short-Term	In-kind	PMO
TOTAL			**1**	

LUTTE CONTRE LA POLLUTION				
Policy 5:	**Build resilient, inclusive and sustainable industrialization in line with Sustainable Development Goals 9 and 12.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Promote the adoption of best practices and technology transfer for more effective mitigation of pollution.	Monitor and periodically report, with relevant stakeholders, the adoption of best practices and technology transfer to industries for more effective mitigation of pollution.	2-4 years Medium-Term	2	MIDSMEC
	Studies to be carried out on: • the cost of pollution from industries in Mauritius; and • the impacts of implementing ISO standards (such as the ISO 14001) in industries. Based on the outcome of the studies, incentives can be considered for industries to adopt ISO 14001 certification.	2-4 years Medium-Term	2	MIDSMEC
Optimise the use of data obtained through the implementation of the Environment Protection (Industrial Waste Audit) Regulations 2008.	Promote industrial waste symbiosis in industries.	2-4 years Medium-Term	2	SWMD
	Development of an e-platform for submission and processing of IWA requirements and setting up of a database (including server) to collect baseline information from the IWA Regulations. The e-platform will also be used to develop indicators on scheduled industries under the IWA Regulations with respect to fuel use, types of boilers, electricity and water consumption, waste generation, etc.	4 – 5 years Long-Term	20	MESWMCC
Encourage Extended Producers' Responsibility to promote waste reduction, re-use and recycling.	Develop policies for the introduction and implementation of Extended Producer Responsibility (EPR), initially for the plastic sector, in order to promote waste reduction, re-use and recycling.	2-4 years Medium-Term	1	MESWMCC in collaboration with MIDSMEC
	Provision for an Environment Award for industries with best environmental practices.	2-4 years Medium-Term	0.5	NPCC
	The new "Industrial Policy and Strategic Plan for the period 2020-2025" to monitor and report on results on strategic thrusts for greening the manufacturing sector and development of eco-friendly products. ***Note:*** *Greening of the manufacturing sector is already embedded in the strategy Creation of an Industry 4.0 Ecosystem through increasing digital and green innovations.*	2-4 years Medium-Term	In-kind	MIDSMEC
TOTAL			**27.5**	

6.2.7 Action plan for "La gestion des déchets"

LA GESTION DES DECHETS					
Policy 1:	**Prevention and Environmentally Responsible consumption.**				
Strategy		**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance home composting.		Continuing the development of home composting (including in the tourism sector).	0 – 5 years Short/ Medium/ Long-Term	50	MESWMCC
		Implementing a monitoring system for encouraging home composting.	0 – 2 years Short-Term	In-kind	MESWMCC
Coordination and development of financial tools for waste prevention and reduction.		Coordination of the different financial tools (e.g. Environment Protection Fee).	> 5 years Long-Term	In-kind	SWMD/MoFEPD
		Development of eco-taxes on imported products that do not comply with environmental efficiency standards and the promotion of cleaner and "greener" products in line with agreements of the World Trade Organisation.	2-4 years Medium-Term	In-kind	SWMD/MoFEPD
		Revision and extension of the Environment Protection Fee to other products or activities.	2-4 years Medium-Term	In-kind	MESWMCC/SWMD
		Implementation of Acceptance Duty on Small Hazardous Waste (batteries and light bulbs).	2-4 years Medium-Term	In-kind	SWMD
Prevention of packaging		Monitoring of the ban on plastic carrier bag, enforcement of other wastes and promotion of reuse of packaging.	0 – 2 years Short-Term	In-kind	MESWMCC
Extension of the deposit concept on post-consumer products.		Study the extension of the concept of deposit on post-consumer products to more goods other than glass bottles.	0 – 2 years Short-Term	In-kind	MESWMCC/SWMD
		Extend the concept of deposit on post-consumer products to goods other than glass bottles.	2-4 years Medium-Term	In-kind	MESWMCC/SWMD
Harmonisation and development of legal procedures.		Review of LGA and EPA regarding penalties.	2 – 4 years Medium-Term	In-kind	MoLGDRM, MESWMCC,SWMD
		Address illegal circumvention and evasion of the rules.	2 – 5 years Medium/ Long-Term	In-kind	MoLGDRM /MESWMCC
TOTAL				**50**	

LA GESTION DES DECHETS				
Policy 2:	**Shift in the solid waste management system from a linear approach to a circular economy with focus on resource recovery and recycling.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Optimisation of waste management system - Primary storage and collection (source segregation and separate collection).	Implementation of Pilot Projects on segregation at source and development of integrated platforms based on material recovery.	2 – 4 years Medium-Term	1000	SWMD
	Realisation of a study on optimisation of waste collection and segregation (questionnaires, best options for segregation methods and technologies, willingness to pay, financial, taxes, etc.).	2-4 years Medium-Term	In-kind	SWMD
	Implementation of an optimised system for primary storage, segregation (at source or through drop-off points) and waste collection (including small hazardous waste collection).	2 – 4 years Medium-Term	(Already given in 1st row)	SWMD
	Optimisation of the waste conveyance system (e.g. additional waste collection vehicles).	2 – 4 years Medium-Term	10	SWMD/LAs
Optimisation of waste management system - Material Recovery Infrastructure (civic amenity centres, sorting units, composting plants).	Conduct of a study for waste transfer optimisation (including drop off options by the citizens and data management system, etc.).	2 – 5 years Medium/ Long-Term	In-kind	SWMD/LAs
	Reconfiguration of the transfer stations.	2 – 5 years Medium/ Long-Term	100	SWMD
	Development of new infrastructure improving waste transfer, including segregation of recyclables, wood valorisation, onsite, reuse centres, etc. (Civic Amenity Centres).	0 – 4 years Short/ Medium-Term	50	SWMD
Development of financing tools for waste collection.	Include waste sorting as a duty of every citizen and companies in the legislation.	0 – 2 years Short-Term	In-kind	MoLGDRM, MESWMCC, SWMD
	Introduction of a tax for waste collection at source.	4-5 years Long-Term	In-kind	SWMD/ MoFEPD
	Implementation of Pay as You Throw measures (tariff differentiation DIFTAR System).	4 – 5 years Long-Term	In-kind	SWMD/ MESWMCC
	Implementation of take back obligation on packaging waste.	4 – 5 years Long-Term	In-kind	SWMD

Optimisation of Regulations on oil waste and construction and demolition waste.	Revision of the Environment Protection Regulations on oil waste and construction and demolition waste.	0 – 4 years Short/ Medium-Term	5 (for construction and demolition waste Regulations) plus In-kind (for waste oil Regulations)	MESWMCC/ SWMD
TOTAL			**1165**	

LA GESTION DES DECHETS				
Policy 3:	**Safe disposal of wastes through the provision of adequate disposal infrastructure.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Implementation of adequate disposal infrastructure.	Definition, study and implementation of solutions for waste storage after the foreseen saturation of Mare Chicose landfill by mid-2020 (Vertical Expansion of landfill).	0 – 2 years Short-Term	4,000	SWMD
	Search of new sites for landfilling after saturation and implementation of alternative solutions for waste storage over the next years.	2-4 years Medium-Term	25	SWMD
Development of financing tools for waste disposal.	Calculation of disposal fee for landfilling for industrial waste generators.	0 – 2 years Short-Term	In-kind	SWMD
	Implementation of disposal fee at landfill for industrial waste generators.	2-4 years Medium-Term	In-kind	SWMD
	Extension of the disposal fee to all users.	4 – 5 years Long-Term	In-kind	SWMD
Review and reinforcement of environmental framework.	Review and reinforce the environmental framework for the development of waste facility (permits, EIA and monitoring, etc.).	2-4 years Medium-Term	In-kind	MESWMCC
TOTAL			**4025**	

LA GESTION DES DECHETS				
Policy 4 :	**Tapping the energy recovery potential of solid wastes.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Characterisation of solid wastes.	Study on waste characterisation, waste generation, and waste stream forecasts.	0 – 2 years Short-Term	5	SWMD
	Upgrading of waste characterisation study.	2 – 5 years Medium/ Long-Term	5	SWMD
Development of a framework for Waste-to-Energy (WtE) Infrastructure.	Study and develop a framework for the development of WtE infrastructure.	2 – 5 years Medium/ Long-Term	5	SWMD
Study and implementation of WtE Projects.	Realisation of a study on best WtE option(s).	2 – 5 years Medium/ Long-Term	10	SWMD
	Implementation of WtE project.	4 – 5 years Long-Term	6,000	SWMD
TOTAL			**6025**	

6.2.8 Action plan for "Contrôle des déchets plastiques"

CONTROLE DES DECHETS PLASTIQUES				
Policy 1:	**Strengthen the regulatory and institutional frameworks for the control of plastic and promotion of alternatives.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Review and strengthen legal provisions for control of plastic pollution.	Amend the existing legislation on PET bottles.	Ongoing	In-kind	AGO & MESWMCC
	Introduce legislation to ban other single use plastic products.	0 – 2 years Short-Term	In-kind	AGO & MESWMCC
	Review Regulations to regulate low-cost plastic toys from China.	2-4 years Medium- Term	In-kind	AGO & MESWMCC
		4 – 5 years Long-Term	In-kind	AGO, MoFEPD
	Review Regulations for registration of recyclers.	4 – 5 years Long-Term	In-kind	AGO, SWMD
	Draft Regulations for segregation of wastes.	2-4 years Medium-Term	In-kind	AGO, SWMD
	Consultancy Services for the development of a Roadmap for a plastic-free Mauritius by 2030.	4 – 5 years Long-Term	5.5	MESWMCC/Private Sector/NGOs/Government Institutions
Review and reinforce mechanism and strengthen enforcement of plastic Regulations.	Promote carafe water instead of bottled water in restaurants/ hotels.	0 – 5 years Short/Medium/ Long-Term	Cost to be finalized with AHRIM	AHRIM & MESWMCC, UNEP/FFEM
	Monitor and enforce import/ manufacture of illegal plastic products and control of these commercial activities/ markets through dedicated team.	0 – 5 years Short/Medium/ Long-Term	In-kind	MESWMCC, PDE, Local Authorities & MRA
	Procure appropriate testing equipment for the Ministry of Environment, Solid Waste Management and Climate Change, Customs Department, MSB and Local Authorities.	0 – 2 years Short-Term	15 (NEL) 12 (ELPD) 10 (MSB)	MESWMCC (NEL, ELPD)
	Further empower the *Police de L'Environnement* and officers of Ministries to carry out crack down operations in commerce/ markets.	0 – 4 years Short/ Medium-Term	In-kind	MESWMCC, PdL and Local Authorities

CONTROLE DES DECHETS PLASTIQUES				
Policy 1:	**Strengthen the regulatory and institutional frameworks for the control of plastic and promotion of alternatives.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Strengthen capacity of the Customs Department and Local Authorities to monitor plastic manufacture/ import.	0 – 4 years Short/ Medium-Term	In-kind	MESWMCC, Local Authorities and MRA
Promote the use of sustainable alternatives by providing adequate infrastructure and economic instruments.	Impose levy on plastic pellets and provide subsidy on compostable/ biodegradable/ recyclable pellets.	0 – 2 years Short-Term	10.4	M/Finance, Importers and Manufacturers
	Provide incentives to local manufacturers to shift to alternatives to plastic for packaging.	2 – 5 years Medium/ Long-Term	Cost to be finalised with local manufacturers	MoFEPD, MIDSMEC, local manufacturers.
	Provide fiscal incentives and subsidies for the substitution of imported plastic with biodegradable alternatives manufactured locally by SME networks.	2 – 5 years Medium/ Long-Term	Cost to be finalised with SMEs	MoFEPD
	Provide fiscal incentives for the local manufacture of palm leaf plates and other plant-based plates, take away boxes, food wraps, food containers and cutlery by women empowerment groups, NGOs, Associations and SMEs.	2-4 years Medium-Term	3	Outgrowing entrepreneur Cooperative Society
	Subsidise the manufacture and import of biodegradable baby diapers/ female hygiene products.	2-4 years Medium-Term	Cost to be catered at level of relevant authority	MESWMCC and MoFEPD
	Work with hypermarkets/ supermarkets/ commercial centres/ bakeries/ private companies/ Ministries to promote alternatives such as eco-friendly/ long lasting bags.	0-2 years Short-Term	192.5	MESWMCC and Private Sector
	Install water fountains in public places, hospitals, beaches, etc.	0-2 years Short-Term/ Medium- Term	28.6	MESWMCC, METEST and NGO (SYAH)

CONTROLE DES DECHETS PLASTIQUES				
Policy 1:	**Strengthen the regulatory and institutional frameworks for the control of plastic and promotion of alternatives.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Distribution of reusable water bottles	0-2 years Short-Term	60	MESWMCC
	Distribution of car bins	0 – 2 years Short-Term	Cost to be catered at level of relevant authority	Private companies
	Initiate discussions with bottlers for new policy to establish a deposit refund mechanism for PET bottles.	0 – 2 years Short-Term	In-kind	MESWMCC and Private Sector
TOTAL			**337**	

CONTROLE DES DECHETS PLASTIQUES				
Policy 2:	**Promote reuse and recycling in the plastic economy.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Broaden the characterisation of plastics to differentiate between single-use and durable plastics, including recyclables.	Categorise different types of imported plastics, through HS codes, at the level of Customs Department.	2-4 years Medium-Term	In-kind	MESWMCC / MRA
	Update the characterisation of plastic wastes at landfill using appropriate sampling methods.	2-4 years Medium-Term	8	MESWMCC, NORAD
	Strengthen the capacity of authorities to collect disaggregated data on different types of plastics.	2-4 years Medium-Term	In-kind	MESWMCC / MRA/ Statistics Mauritius
	Set up an observatory to disseminate data on plastics.	4 – 5 years Long-Term	In-kind	MESWMCC
Ensure the setting up of a sustainable mechanism for sorting, collecting and recycling to encourage waste segregation at source and reuse/ recycling of plastic wastes.	Create logistical facilities for Deposit Refund System in supermarkets, other sales points and public places for plastic products (such as bottles, toothbrushes, razors, pens, cartridges/ toners, chemical containers) and offer cash refunds.	2-4 years Medium-Term	25	UoM/ NGO
	Provide appropriately designed 3-bin systems to households/ markets/ commercial centres/ business centres/ Government institutions, etc.	2-4 years Medium-Term	300	Private Sector/ NGO
	Procure eco bins to be placed at strategic locations on beaches.	2-4 years Medium-Term	8	MESWMCC, Local Authorities, BA
	Set up an appropriate collection mechanism for recyclables.	0 – 2 years Short-Term	0.5	UoM/ NGO
	Carry out a life cycle assessment to identify plastic wastes hotspots.	2-4 years Medium-Term	1.5	UoM
Ensure the establishment and growth of private recyclers to assure outlets for recyclables.	Construction and operation of Civic Amenity Centres (‘*Déchetteries*’) and waste sorting facility where sorted and clean recyclables will be available for recycling.	2-4 years Medium-Term	Cost to be catered at level of relevant authority	SWMD
Promote innovative recycled products to enhance viability of recycling.	Encourage recyclers to invest in the sector through PPP projects and through provision of incentives.	Short/Medium/ Long-Term	12	SWMD/ MoFEPD/ Recyclers/ NGO
	Project extension in the sorting out and recovery of recycling items (especially PET bottles).	2-4 years Medium-Term	10	Mission Verte
	Install recycling plants at strategic locations.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	MESWMCC in collaboration with MIDSMEC, Recyclers

	Encourage use of recycled products that are made in Mauritius (e.g. recycling of used banners into long lasting bags).	(1-5 years) Short/Medium/ Long-Term	Cost to be catered at level of relevant authority	MESWMCC in collaboration with MIDSMEC, BM
TOTAL			**365**	

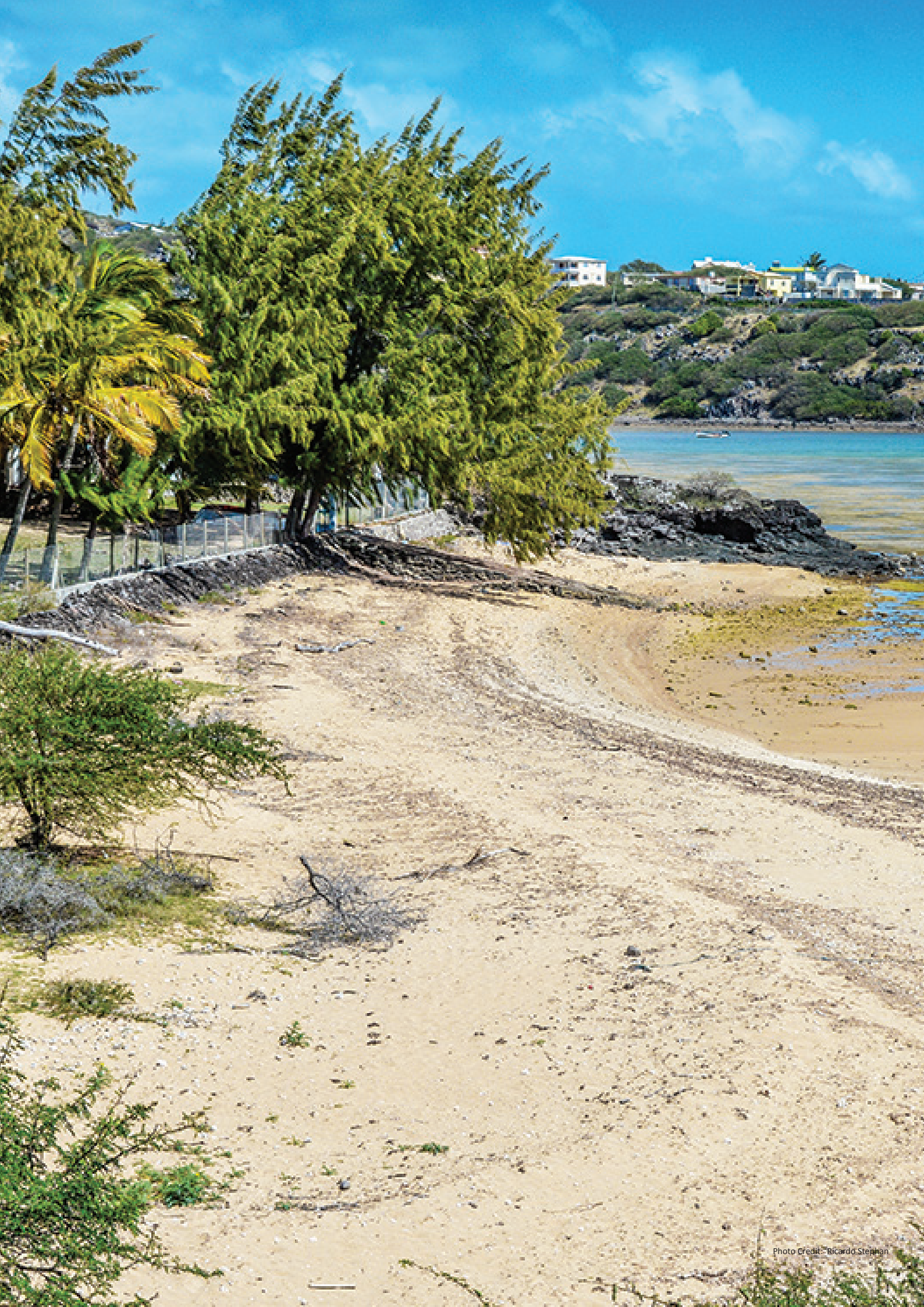
CONTROLE DES DECHETS PLASTIQUES				
Policy 3:	**Encourage continued sensitisation and awareness-raising on plastic issues.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Promote environmental stewardship at all levels to stop dumping and littering of plastics at public places and bare lands.	Encourage local NGOs/ private parties to participate in regular clean-up of rivers/ drains and lagoons to remove plastic wastes from the environment.	1-4 years Short/ Medium-Term	7	UoM, MPA, Ecomode Society, LA, LEU
	Sensitise people on the proper usage of separate bins to reduce the amount of windblown and light plastics reaching the ocean.	1-5 years Short/ Medium/ Long-Term	60	MESWMCC, UoM, Ecomode Society
	Sensitise the fisher community and skippers to prevent dumping of fishing nets/ gear and other wastes at sea.	4 – 5 years Long-Term	1.5	UoM, Ecomode Society
	Sensitise people to prevent marine littering and installation of nets for the collection of debris at river/ drains outlet.	2-4 years Medium-Term	6	MESWMCC, MPA, donors
	Sensitise the marine sector to prevent marine littering and procurement of a new floating debris recovery craft.	2-4 years Medium-Term	12	MESWMCC, MPA, donors
Ensure continuous sensitisation and awareness campaigns, through appropriate media, on sustainable consumption and production of plastics.	Organise regular awareness campaigns, through talks in schools/ community centres, to sensitise people to shift towards the use of reusable products and other alternatives to single-use plastic products.	1-4 years Short/ Medium-Term	1.5	UoM, NGO
	Carry out aggressive sensitisation on TV, radio, social media and cinema on the impacts on plastics and environment-friendly actions and to help the population to make informed choices in their consumption patterns.	4 – 5 years Long-Term	1.5	UoM, NGO

	Sharing of best practices.	Medium/ Long-Term	1.5	Local manufacturers
	Include plastic issues in school curriculum and develop a 'no plastic at school' programme.	4 – 5 years Long-Term	1.5	UoM, Ecomode Society
	Empower and support recognised professional local NGOs to carry out sensitisation on waste segregation and promote collection and recycling.	4 – 5 years Long-Term	1.5	UoM, Ecomode Society
	Raise awareness of manufacturers and importers to promote the use of sustainable alternatives to plastics, including for biodegradable packaging.	4 – 5 years Long-Term	1.5	UoM, Ecomode Society
	Amend CSR guidelines to include components on plastic management for Non-Government Organisations and Civil Society Organisations.	1-4 years Medium/ Long-Term		MoFEPD
TOTAL			**95.5**	

CONTROLE DES DECHETS PLASTIQUES				
Policy 4:	**Support research and development on plastics, its impacts and sustainable alternatives.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Encourage further research on the impacts of plastic pollution on the environment and the resulting effects on human and ecosystem health.	Develop standard methodologies to assess the presence of microplastics and nanoplastics in different environmental conditions (water, sediments, marine organisms and soils).	0 – 2 years Short-Term	0.9	MOI, Donors
		4 – 5 years Long-Term	5	UoM
	Carry out in-depth research to evaluate the distribution of plastic in the environment and in plastic containers/ bottles.	0 – 2 years Short-Term	1.5	MOI, Donors
		2-4 years Medium-Term	In-kind	MoHW
		4 – 5 years Long-Term	5	UoM

	Promote research on the impacts of plastic bioaccumulation in the food chain.	0 – 2 years Short-Term	4.5	MOI
		2-4 years Medium-Term	5	UoM
Support research and development to evaluate alternatives to plastic and promote local resources.	Carry out a feasibility study to assess whether recycled plastics could be used for other applications, such as production of bricks.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	Donors
	Assess the sustainability of the use of local resources such as palm for the production of plates.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	SMEs, Donors
	Carry out research on the availability and application of biodegradable packaging.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	UoM
Promote research and development to support the recycling industry.	Design innovative products from recycled materials.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	UoM
	Support research on types of plastics materials amenable to recycling.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	UoM
	Research on efficiency in design of recycling plant and operation.	4 – 5 years Long-Term	Cost to be catered at level of relevant authority	UoM
Carry out research and development for the design of collection facilities along beaches and the filtration of water bodies from debris.	Design of suitable bins and collection facilities for specific sites based on types of generation of wastes.	2-4 years Medium-Term	2	NGOs, LAs
TOTAL			**23.9**	

PART II: **RODRIGUES**



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1.0 INTRODUCTION

The Rodrigues Master Plan (Part II) is an integral part of the Master Plan for the Republic of Mauritius. It focuses on the specific socio-economic and environmental context of Rodrigues and its purpose is to foster its successful *"transition écologique"* within the Republic of Mauritius.

The development of the Rodrigues Master Plan has been a coordinated and cooperative effort between stakeholders in Rodrigues, Government authorities and the United Nations Development Programme (UNDP) Country Office. At the onset, the process was designed to be inclusive to ensure that the socio-economic and environmental context of Rodrigues was comprehensively reflected in the Plan.

A series of consultative meetings held in Rodrigues, identified **eight (8) Thematic Issues** related to the specific Rodrigues environment. Each theme describes the current context and the major gaps between the present situation and the desired one, the targeted outcomes or the desired policy options. These themes have been analysed and discussed thoroughly with various stakeholders. These consultative processes have resulted in 35 cross-cutting policy recommendations and around 235 costed specific actions for an estimated cost of Rs1 billion. Together they will foster a successful *"transition écologique"* for the island.

2.0 WASTE MANAGEMENT

2.1 Where are we and what are the major gaps?

Rodrigues generates around 86 tonnes of waste per week for a current population of 43,819. The level of consumerism in Rodrigues is on the increase while at the same time there appears to be a decrease in the consumption of locally produced goods when compared with imported goods. For example, while soft bottled drinks were consumed mostly during festive periods in earlier years, it is now being consumed on a daily or at least weekly basis by most families. At least this is an indication looking at the importation trend. The Rodriguan family is certainly starting to follow the global trend of opting for convenience rather than consuming local products and protecting the environment.

The local authorities are witnessing a change in the quantity of wastes for which no concrete treatment measures exist on the island. Without a proper waste disposal facility, the open dumping method is still being used. The waste management authorities are bound to make important decisions regarding the fate of all wastes in Rodrigues.

2.1.1 The major gaps in Rodrigues are the following:

(i) There is no landfill or a proper engineered way to address solid wastes in Rodrigues. There are open dumping sites where treatment of waste is elementary. Fire outbreaks on the dumping sites are frequent during the summer season. This is detrimental to air quality. The fumes emanating from the fire outbreaks are blown to several locations around the island.

(ii) Treatment of green wastes is carried out at Oyster Bay Green Waste Shredding site and shredded wastes are provided to interested members of the public for composting or mulching. Green waste management is on the right track but special effort is still needed so that no green waste reaches the dumping sites.

(iii) Since 2014, the use of plastic vest bags is prohibited in Rodrigues. It was a major step in the strategic direction of turning Rodrigues into an ecological island. There are still challenges with regards to over packaging of imported products that still generate plastic wastes.

(iv) The Government has launched a waste segregation at source project for all households whereby all PET, metal and glass bottles are collected separately. Household waste segregation is now being implemented in all villages. Cans, tins and aluminium are being segregated through special bins in 15 villages. PET plastics are being sent to Mauritius. The Commission for Environment is working in close collaboration with local recyclers (or waste exporters) to ensure maximum recycling of wastes.

(v) Electronic wastes are temporarily stored in a container. Expertise to manage electronic waste is lacking but nevertheless, some actions were initiated under the Switch Africa Green project. The possibility to electronic wastes to E-waste recycling companies in Mauritius is being contemplated by local authorities.

(vi) Little expertise and know-how are available for the proper management of hazardous wastes in Rodrigues. The main types of hazardous wastes likely generated include expired paints, expired chlorine, chemicals and used batteries. Used batteries are already being collected and sent abroad for recycling.

(vii) An agreement has been reached with Eco Fuel in Mauritius for the treatment/ recycling of used oil. However, there is still a need to sensitise motor garages to adopt the proper method of used oil disposal.

(viii) The Department of Environment issues permits for the disposal of big volumes of wastes by individuals. There are some issues regarding law enforcement in some cases.

(ix) The Environment Division is not much involved in the management of medical wastes. There is an incinerator at Queen Elizabeth Hospital for the treatment of medical waste. However, there are some issues when the incinerator occasionally breaks down.

(x) Regarding liquid wastes, numerous houses in Rodrigues have installed absorption pits to accommodate modern sanitation systems. In some cases, the effluent seeps into the earth, and if not treated, causes the contamination of aquifers. No study has been conducted to measure the incidence of effluents on the aquifers. Rodrigues, having a hilly topography, is ill-suited for a sewer network. A circular waste management system is favoured over a linear one because its testing has not been done as at date.

(xi) Cesspool emptier trucks (cisterns) are sent to citizens' houses that have full septic tanks. The effluents are pumped and conveyed to the leaching field at Grenade. The leaching field is currently saturated but effluents are still being sent thereat. The present capacity of the leaching field is 25m^3/day. A contract has been allocated for the construction of a wastewater treatment plant of a capacity of 50m^3/day and will be operational by 2023.

(xii) The Indian Ocean Commission has launched a project of bio-digester whereby animal wastes are used to complement human wastes to generate biogas.

(xiii) Other issues are:

- absence of a solid and liquid waste management strategy;
- absence of a proper engineered management site for solid wastes;
- weak institutions to deal with liquid wastes;
- absence of a monitoring system for aquifers and sea water quality;
- absence of baseline data to set standards;
- issue of enforcement in some cases (dumping); and
- absence of a special dedicated unit to address waste management.

2.2 Targeted Outcomes

Rodrigues aspires to be *'Zero waste Island'* by 2030, through the implementation of effective waste management policies that resonate with all stakeholders while fostering eco-responsible behavior in the population.

2.3 Policy Orientations

Cross-cutting Policy Recommendation R1.1
To promote circular economy.

Cross-cutting Policy Recommendation R1.2
To promote sound liquid waste management.

Cross-cutting Policy Recommendation R1.3
To develop awareness campaign targeting the private sector, educational institutions and households with regards to waste management.

Cross-cutting Policy Recommendation R1.4
To provide appropriate infrastructures for waste management activities.

Cross-cutting Policy Recommendation R1.5
To improve existing institutional framework to foster effective waste management.

3.0 CLIMATE CHANGE AND DISASTER RISK REDUCTION

3.1 Where are we and what are the major gaps?

Rodrigues is affected by several impacts of climate change such as tsunamis affected the coastline of Mauritius and Rodrigues in December 2004; heavy rainfall during short periods of time; persistent droughts over several months; and cyclones with more and more unpredictable behavioural path. Key sectors that are already impacted upon are water resources, coastal areas, fisheries, agriculture, infrastructure, human health and marine and terrestrial biodiversity. With predicted increases in cyclonic disturbances and storm surges, the coastal areas of Rodrigues are extremely vulnerable. Elevated sea levels will be experienced more frequently in many coastal locations in the future, with low lying areas particularly vulnerable to flooding.

As per the Climate Change Act 2020, a Rodrigues Climate Change Committee (RCCC) has been set up and three sub-committees namely Sensitisation Sub-Committee, Data and Research Sub-committee and Disaster Sub-committee have also been established.

3.1 The major gaps in Rodrigues are the following: -

(i) Inadequate adaptation measures to enhance resilience to the adverse impacts of climate change.
(ii) Lack of synergistic approach between development and environment protection.
(iii) Carbon sink (area under green cover) is decreasing and there are inadequate policies to address the issue due to limited resources.
(iv) Insufficient financial and human resources.
(v) Poor institutional capacity for information sharing, coordination and planning.
(vi) Insufficient awareness raising and education on climate change to bring about the transformational shift from traditional practices.
(vii) Limitation in Early Warning System: The newly installed radar in Mauritius (Trou aux Cerfs) does not cover Rodrigues (450 km radius).
(viii) Rodrigues Disaster Scheme not yet validated to impart responsibilities.
(ix) Limited institutional resources for full operation of a Disaster Centre.

3.2 Targeted Outcomes

Rodrigues is a more resilient island following the mainstreaming of climate change and disaster risk reduction in all future developments.

3.3 Policy Orientations

Cross-cutting Policy Recommendation R2.1
To mainstream climate change in all sectoral developments such as agriculture, fisheries, tourism, public Infrastructure, building, coastal zone, water, health, energy, transport, waste and land-use planning.

Cross-cutting Policy Recommendation R2.2
To increase the carbon sink capacity through greening and reforestation.

Cross-cutting Policy Recommendation R2.3
To promote the use of renewable energy and energy efficiency, bio-farming and integrated waste management.

Cross-cutting Policy Recommendation R2.4
To develop institutions for climate change adaptation, disaster risk reduction and mitigation measures.

4.0 MARINE ECOSYSTEM

4.1 Where are we and what are the major gaps?

The fisheries and marine resources in Rodrigues have undergone a steady decline as a result of pollution, sedimentation and coral damage from destructive fishing practices such as trampling. The threats to the marine environment also include over fishing and habitat degradation from poorly planned construction and infrastructural development in the coastal zone. Additionally, other environmental disturbances are linked to natural phenomena such as cyclones and climate change. One key species to have witnessed such significant decline is the octopus. Indeed, the stock of octopus decreased from about 770 tonnes in the 1990s to 268 tonnes in the early 2010s.

Artisanal fishers generally use seine, trap, line, and harpoon as fishing methods. The size of the fish has decreased over the years and the total catch is decreasing despite increase in effort, and the number of fishing days, and the use of advance fishing techniques. The fishing of octopus with harpoons causes trampling and destroys the delicate coral structures, resulting in a decline in the octopus' population and landings. Large net fishery also has its impact on marine flora and fauna as a result of the destructive approach to lure the fish into the nets.

Existing efforts to protect the marine environment are fragmented and capacity levels for management are limited. The reef is being monitored on a yearly basis and there is indication of high loss of coral cover as a result of increased sea surface temperature. Government policy aimed towards making Rodrigues an ecological island comprises measures to preserve key species including a closed season on octopus fishing since 2012. To sustain the economic situation of the 1200 fishers involved in the octopus industry, fishers have been engaged in alternative livelihood targeting the protection of the environment. Large net fishers were encouraged to surrender their large net licence against compensation. A total of six large net licences are still operational in Rodrigues from a total of 15 in the late 1970s.

Presently there are four Marine Reserves and one Marine Park of 42 km^2 established under the project *"Partnerships for Marine Protected Areas in Mauritius and Rodrigues"*.

The major gaps in Rodrigues are the following:

(i) Weak legal system for retraining illegal fishing activities.
(ii) Lack of human power for proper Monitoring Control and Surveillance (MCS). Illegal fishing and the use of unlawful fishing implements including in restricted areas of the MPAs.
(iii) Lack of entrepreneurship in the fishing sector and insufficient incentives for encouraging outer lagoon fishing, limited training and deployment of Fish Aggregating Devices (FADs).
(iv) Oysters and pearls are cultured by a local promoter and research to identify economically viable seaweed species for culture is underway.
(v) Lack of research due to insufficient technical and scientific cadres within the Government service, inadequate facilities for conducting of research and a lack of baseline data for reference. Mangrove forests and their biodiversity are not being monitored.
(vi) Marine Reserves are not being properly managed, nursery grounds are not protected, sea-grass covers (in front of hotels) are being destroyed, coastal areas are being destroyed by urbanisation and natural factors such as cyclones, storm surges and sand mining in the western lagoon in Rodrigues.
(vii) Coral planting programme is being implemented to restore coral reefs from the impact of bleaching as a component of the Tourism Alternative Livelihood Programme (COVID-19 pandemic support).
(viii) No proper policy to mitigate the impact of sedimentation of the lagoon emanating from poor construction (road, public and private buildings, etc.).
(ix) Absence of a solid and liquid waste management strategy.

4.2 Targeted Outcomes

- The marine environment and its resources are sustainably managed and protected for the welfare of the population.
- Illegal fishing activities are reduced through enhanced awareness of the population.

4.3 Policy Orientations

Cross-cutting Policy Recommendation R3.1
To restructure the Fisheries Research and Training Unit into the Marine Academy and Research Centre.

Cross-cutting Policy Recommendation R3.2
To develop a strategic plan for the fisheries sector in Rodrigues and to strengthen it with adequate staff and capacity building.

Cross-cutting Policy Recommendation R3.3
To sustainably exploit the unexploited off-lagoon resources.

5.0 TERRESTRIAL BIODIVERSITY

Biodiversity includes all forms of life on earth, whether native or alien to any particular area of the globe. It also includes species in agriculture that are often introduced in an area. Biodiversity is also essential for the production of ecological services such as erosion control, flood control, carbon sequestration, temperature cooling, etc. Present policy orientation and strategies deal almost exclusively with native biodiversity, except in cases where it has been shown that the presence of alien biodiversity is important and necessary for the survival and welfare of native species.

The major gaps in Rodrigues are the following:

(i) No baseline listing of biodiversity, lack of up-to-date IUCN Red-list status for all of Rodrigues' endemic flora and invertebrate species, limited access to biodiversity data and information, inadequate long-term monitoring mechanisms, lack of appropriate seed/ gene bank, inadequate local expertise and human resources for biodiversity preservation and conservation, and limited knowledge on the impact of climate change on biodiversity.

(ii) Loss of biodiversity has been witnessed in Rodrigues: many endangered flora with very few individuals in the wild, increase of invasive alien species, loss and decline of different biodiversity levels, decline in ecosystem services and loss of local breeds in animals and local varieties in crops.

(iii) Loss and/or decline and/or degradation of certain types of ESAs, inadequate or loss of buffer zones for various habitats, deforestation, herds and pasture management, climate change impacting fodder productivity and crop production, and introduction of imported crop varieties (Rodrigues was described as one of the most degraded islands in terms of biodiversity loss).

(iv) Increasing disinterest of the community with nature, insufficient awareness on the importance of conservation of biodiversity, limited participation of the private sector in conservation of biodiversity, inadequate funding, compensation measures, fiscal incentives for the engagement of private sector in biodiversity conservation/ protection, and absence of awareness of voluntary protected areas on private land.

(v) Inadequate enforcement of legislation, natural capital not recognised as an economic and social asset, absence of performance standards for the preparation of Environmental Impact Assessment and subsequent monitoring programmes.

5.1 Targeted Outcomes

- Native biodiversity and its ecosystems are restored, conserved and sustainably used in line with national and international commitments and to ensure resilience and adaptation to climate change.
- Healthy, well-functioning and climate change resilient ecosystems provide economic, social and environmental benefits.
- A society in which all stakeholders understand the importance of biodiversity and the need for a sustainable agricultural biodiversity.

5.2 Policy Orientations

Cross-cutting Policy Recommendation R4.1
To ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation and that any loss of ecosystems services be compensated accordingly, using Strategic Environmental Assessment and Natural Capital Accounting.

Cross-cutting Policy Recommendation R4.2
To increase awareness, participation and engagement of stakeholders at all levels for the protection of terrestrial biodiversity.

Cross-cutting Policy Recommendation R4.3
To improve, coordinate and harmonise institutional and legislative frameworks as well as enhance accountability and transparency, and effective enforcement of terrestrial biodiversity conservation.

Cross-cutting Policy Recommendation R4.4
To provide financial support and fiscal incentives to the private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity.

Cross-cutting Policy Recommendation R4.5
To promote research and baseline data, and access to such data to support evidence- based policy and management of terrestrial biodiversity.

Cross-cutting Policy Recommendation R4.6
To ensure healthy, well-functioning and resilient ecosystems providing economic, social and environmental benefits.

Cross-cutting Policy Recommendation R4.7
To secure existing biodiversity conservation areas and create new ones across Rodrigues.

Cross-cutting Policy Recommendation R4.8
To make the transition towards and encourage the adoption of organic agriculture or climate smart agriculture to enhance the economic and social environment, and to promote livestock herd management system to sustain and nurture basic natural resources.

6.0 LAND AND COASTAL REHABILITATION

6.1 Where are we and what are the major gaps?

Rodrigues Island covers a surface area of about 10,900 ha including the islets around it. The island is surrounded by extensive reef systems with a lagoon approximately twice the surface area of its land mass. The planted forest cover is estimated to be around 30% while native vegetation is restricted to a few patches of restored forest and isolated individual plants.

Rodrigues is mainly made of rocky shorelines. The sixteen sandy beaches that are present represent only 9% of the total shoreline. Most are pocket beaches or small crescentic ones. They range from 2 to 25 m wide, some being very narrow as a consequence of the receding shoreline.

Land degradation in Rodrigues is driven by conversion of forests to unsustainable subsistence agriculture, overgrazing by cattle, and lack of land use planning and management. Climate change driven droughts, frequent fires, flash floods, landslides, saline water intrusion and sea level rise have exacerbated land degradation on the island. The direct impacts of land degradation are loss of ecosystems services (loss of fertile topsoil, decrease in pasture quality and productivity, increased run-off and sedimentation of dams and lagoons). There exist several barriers that hinder the island's effort to adopt integrated landscape management planning which include weak enabling environment for the adoption of integrated landscape management planning and sustainable land management mainstreaming. There is also an absence of comprehensive policy on land degradation, incomplete land degradation neutrality process, non-existence of a coordinating mechanism on land degradation and little information about open-access spatial planning system.

Human-induced beach erosion is very limited due to the low level of development of the coastal zone. Villages are located inland and few hotels (3-5) are built on the seashore. The most impacted sector is that of Port Mathurin, the main town, on the northern part of the island, where land reclamation and coastal dredging were carried out to extend the harbour and to create flat land for future development. After erosion events in the late 1990s, truck tyres were installed on the

southern part of Ile aux Sables, a nature reserve. The main cause of beach erosion in Rodrigues is therefore the continuous sand movement pattern that exists along the beaches and the presence of hard infrastructure placed in the sea. Sand extraction practices also exist in the Rodrigues' lagoon at Banc Catherine. It is estimated that about 25,000 tonnes of sand are removed annually (JICA, 2015). Although control measures at the sand landing station have been strengthened, to this date there is no study that assesses the sand stock required to ensure sustainable exploitation. Furthermore, higher sea surface temperature and sea level rise are foreseen to worsen beach erosion and the problems faced by the fisheries sector in the decades to come.

6.2 Targeted Outcomes

All development in Rodrigues is managed according to an integrated Land Use and Coastal Zone Planning approach.

6.3 Policy Orientations

Cross-cutting Policy Recommendation R5.1
To promote land-use planning in land management sector over the island.

Cross-cutting Policy Recommendation R5.2
To favour the practice of Integrated Coastal Zone Management in all coastal related development.

Cross-cutting Policy Recommendation R5.3
To promote a Ridge-to-Reef approach in the overall management of Rodrigues Island.

7.0 GREENING UP THE ECONOMY/ BUSINESS

The vision of the island of Rodrigues is to become an "*Île Écologique*" and there is a strong political will for achieving a sustainable development for the island. Rodrigues island relies much on its natural resources for its economic and social activities. The island is highly vulnerable to extreme climatic conditions including frequent cyclones, droughts and flood, thus causing degradation of the environment and natural resources and decrease in agricultural yield. This is further exacerbated by some unsustainable practices such as overfishing in the lagoon, overgrazing by straying animals, unorganised construction and excavation on slopes. Moreover, the narrow economic base, limited water storage infrastructure, a small traditional business sector with limited technical development and a lack of competitiveness in the handicraft sector further accentuate the economic vulnerability of the island. All these environmental and economic factors

lead to fragile livelihoods of the population and reflect in high poverty and unemployment rates in Rodrigues.

There is currently no single institution that captures all aspects of sustainable development under the same umbrella. The Commission for Environment has already initiated several actions targeting sustainable consumption and production practices. These actions still need to be developed into long term strategies. The transition to a green economy is only possible through sustainable consumption and production practices that require the contribution of people from all spheres. Currently there is no system in place for continuous raising of awareness among the population. 400 entrepreneurs have been trained on the concept of sustainable consumption and production practices. Many of these entrepreneurs have not been able to implement or to green their business because of financial constraints and low access to green economy.

7.1 Targeted Outcomes

The wellbeing of the population of Rodrigues is based on the sustainable uses of natural resources with low environmental impact.

7.2 Policy Orientations

Cross-cutting Policy Recommendation R6.1
To create an institutional framework for green economy.

Cross-cutting Policy Recommendation R6.2
To create a sustainable value chain model for Rodrigues.

Cross-cutting Policy Recommendation R6.3
To disseminate information and training in connection with the greening of the economy.

Cross-cutting Policy Recommendation R6.4
To incentivize green initiatives by private entrepreneurs.

Cross-cutting Policy Recommendation R6.5
To improve competitiveness of green products and services.

8.0 LA CULTURE ENVIRONNEMENTALE

8.1 Where are we and what are the major gaps?

Environmental culture relates to the behaviours, attitudes, practices and knowledge of individuals, households, groups and organisations with respect to maintaining or protecting natural resources, the ecosystem and all other external conditions affecting human life, livelihoods and wellbeing.

The major gaps in Rodrigues are the following:

(i) Lack of environmental awareness and sensitisation towards ecosystem services and functioning.
(ii) Logistics and financial limitations to address empowerment initiatives for local people.
(iii) Lack of initiatives for the development of environmental stewardship.
(iv) Educational curriculum does not adequately address environmental practices towards inculcating pro-environmental behaviours.
(v) Lack of alternatives to cope with economic and cultural changes.

8.2 Targeted Outcomes

Rodriguans are '*Des Citoyens Eco-responsables'*.

8.3 Policy Orientations

Cross-cutting Policy Recommendation R7.1
To set up a network including all related stakeholders for mass sensitisation of the population on environmental issues.

Cross-cutting Policy Recommendation R7.2
To propose activities for the review and updating of school curricula and promote extra-curricular activities to instill an environmental culture.

Cross-cutting Policy Recommendation R7.3
To revisit policies of private, public and other institutions (schools, government, private bodies, SMEs, NGOs, and others) to encourage best environmental practices and celebration of world events such as World Environment Day, World Ocean Day, World Clean Up Day, Earth Day.

9.0 RENEWABLE ENERGY

Rodrigues Island forms part of the Republic of Mauritius and is located in the south western part of the Indian Ocean. The island is devoid of fossil fuels sources and hydropower is non-existent. In 2019, 94.6% of the electricity demand was met from imported fossil fuel and 5.4% from wind. The vision of the RRA is to work towards making Rodrigues an ecological Island by 2050. In this regard, the elaboration of the Roadmap has been launched under financial assistance of the *Agence Française de Développement (AFD).*

9.1 Where are we and what are the major gaps?

Rodrigues does not have responsibility for energy used on the island. It is the responsibility of the Ministry of Energy and Public Utilities.

9.2 Targeted Outcomes

Rodrigues Island's energy is 100% renewable energy.

9.3 Policy Orientations

Cross-cutting Policy Recommendation R8.1
To promote energy efficiency over the island.

Cross-cutting Policy Recommendation R8.2
To favour the maximum use of renewable energy over Rodrigues island.

Cross-cutting Policy Recommendation R8.3
To sensitise the population of Rodrigues island about the use and importance of renewable energy.

Cross-cutting Policy Recommendation R8.4
To reinforce local capacities for promoting/ development of renewable energy over Rodrigues island.

10.0 APPENDICES - POLICIES AND STRATEGIES

Appendix 1: Waste Management

Policy R1.1: Promote circular economy.

- **Strategy 1:** Develop an integrated solid waste management strategy.
- **Strategy 2:** Adopt "Reduce, reuse, recycle, recover" as principles.

Policy R1.2: Promote sound liquid waste management.

- **Strategy 1:** Develop a liquid waste management strategy.
- **Strategy 2:** Strengthen water and waste water quality monitoring and enforcement.
- **Strategy 3:** Conduct research to determine the impact of liquid waste on the environment.

Policy R1.3: Develop a plan for raising awareness for the private sector, educational institutions and households with regards to waste management.

- **Strategy 1:** Devise awareness campaigns through appropriate media outlet.
- **Strategy 2:** Hold regular workshops, seminars and short courses.

Policy R1.4: Provide appropriate infrastructure for waste management activities.

- **Strategy 1:** Construct a landfill.
- **Strategy 2:** Provide water treatment plants in public facilities.

Policy R1.5 Improve existing institutional framework to foster effective waste management.

- **Strategy:** Review the Rodrigues Environment sub-committee.

Appendix 2: Climate Change and Disaster Risk Reduction

Policy R2.1: Mainstream climate change in all future sectoral developments such as agriculture, fisheries, tourism, infrastructure, coastal zone, water, health, energy, transport, waste and land-use planning.

- **Strategy 1:** Assess and develop adaptation plans in key sectors namely, energy, transport, waste, land-use planning, infrastructure, water, agriculture, fisheries, tourism and coastal zone and health.
- **Strategy 2:** Develop tools to undertake vulnerability risk assessment and adaptation, as well as carbon footprint and develop mitigation measures.

Policy R2.2: Increase the sink capacity through greening and reforestation activities at various levels.

- **Strategy 1:** Enhance participation and empower the population in local reforestation initiatives.
- **Strategy 2:** Develop a more appropriate land development and planning policy for better conservation of green zones and reforestation purposes.
- **Strategy 3:** Ensure effective protection and management of the ESAs.

Policy R2.3: Promote the use of renewable energy sources and energy efficiency, bio-farming and integrated waste management.

- **Strategy 1:** Expand the use of renewable energy technologies.
- **Strategy 2:** Promote eco-friendly institutions/ buildings at all levels by adopting best practices such as renewable energy, energy efficiency and encourage construction of sustainable buildings based on appropriate building codes.
- **Strategy 3:** Promote smart agriculture, namely, bio-farming and composting of livestock waste.
- **Strategy 4:** Promote sustainable waste management through waste segregation, recycling and composting as a means to reduce GHG emission from the landfill.

Policy R2.4: Promote institutional development on climate change adaptation, disaster risk reduction and mitigation measures.

- **Strategy 1:** Enhance access to information and responsiveness capacity of all stakeholders prior to any development in vulnerable areas.
- **Strategy 2:** Enhance preparedness to deal with risks from climate change and disaster management.

Appendix 3: Marine Ecosystem

Policy R3.1: Restructure the Fisheries Research and Training Unit into the Marine Academy and Research Centre.

- **Strategy 1:** Rebranding of the different sectors to meet the management and policy objectives.
  - (i) Provide appropriate facilities (equipment and infrastructure) for upgrading of each sector.
  - (ii) Review of the organisational structure of the sectors to enhance proper management, administration and research development.

- **Strategy 2:** Harmonise the efforts for a holistic management, conservation and protection of the marine resources.
  - (i) Promote collaboration with AFRC, MOI, NGOs, and other relevant institutions.
  - (ii) Strengthen research, data collection, information sharing and dissemination of results.
  - (iii) Improve coordination mechanism and consultative process.
  - (iv) Build technical capacity of all stakeholders for enhancing the protection and conservation of marine resources.
  - (v) Promote and support alternative livelihood for the fisher communities such as sustainable marine culture development.

Policy R3.2: Develop a strategic plan for the fisheries sector for Rodrigues.

- **Strategy 1:** Establish a proper capacity building programme for both Government officers and the fisher community.
  - (i) Stocktaking of the training gaps of Government officers and fishers for facilitating development of tailor-made capacity building programme.
  - (ii) Development/ elaboration of training programme for Government officers and fishers.
  - (iii) Evaluation of the impacts of the training.
  - (iv) Awareness raising campaign for the fisher community for the promotion of in-lagoon and off-lagoon fisheries protection and conservation.
  - (v) Establishment of the human capital requirement for proper management of the marine and fisheries resources.

- **Strategy 2:** Strengthen existing seasonal closure and introduce new closure for other fisheries.

    (i) Elaboration of new legislations for the different targeted fisheries.
    (ii) Review of the existing legislations.
    (iii) Conduct surveys to ensure the proper recording of data for analysis of the current stock.
    (iv) Participatory approach to the closure through awareness raising of the community.

Policy R3.3: Strengthen the fisheries sector with adequate staff and capacity building.

- **Strategy 1:** Recruitment of key human resource including scientific staff.

    (i) Review of the existing organisational set up of the Fisheries Division and identify gaps for effective implementation of policies.
    (ii) Strengthen human resources capacity.

- **Strategy 2:** Provide enabling environment to facilitate the Fisheries Division to conduct scientific research works.

    (i) Setting of appropriate infrastructure for research including laboratory.
    (ii) Providing key sectors with the necessary equipment.
    (iii) Enter into a MOU with relevant local and regional institutions to facilitate the transfer of knowledge and knowhow.
    (iv) Enhance greater cooperation with the AFRC, the MOI and other regional and international research centres.

Policy R3.4: Sustainable exploitation of the unexploited off-lagoon resources.

(i) Develop and implement sustainable fishing management plans.
(ii) Review and update policy and regulatory framework.

Appendix 4: Terrestrial Biodiversity

Policy R4.1: Ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation, and that any legitimate loss of ecosystems services be compensated accordingly, using Strategic Environmental Assessment and Natural Capital Accounting.

- **Strategy 1:** Mapping, ranking, fencing, demarcation and protection of biodiversity conservation zones.
- **Strategy 2:** Reviewing of existing development mechanisms for the protection of biodiversity.
- **Strategy 3:** Preserving biodiversity conservation.
- **Strategy 4:** Restoring natural endemic coastal vegetation.

Policy R4.2: Increase awareness, participation and engagement of stakeholders at all levels for the protection of terrestrial biodiversity conservation.

- **Strategy 1:** Sensitisation/ public awareness on biodiversity.

Policy R4.3: Improve, coordinate and harmonise institutional and legislative frameworks as well as enhance accountability and transparency, and effective enforcement of biodiversity conservation.

- **Strategy 1:** Strengthen institutions and legislations for effective and efficient enforcement of biodiversity protection.

Policy R4.4: Provide financial support and fiscal incentives to the private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity.

- **Strategy 1:** Devise financial and fiscal tools to help promote biodiversity conservation among the private sector and Civil Society Organisations.
- **Strategy 2:** Develop eco-generative (financial agricultural) projects.

Policy R4.5: Promote research and baseline data, and access to such data to support evidence-based policy and management of biodiversity.

- **Strategy 1:** Facilitate access to information related to research on biodiversity conservation to policymakers.
- **Strategy 2:** Promote research in the field of agricultural biodiversity.

Policy R4.6: Secure existing biodiversity conservation areas and create new ones across Rodrigues.

- **Strategy 1:** Increase resilience of biodiversity across Rodrigues with harmonisation.
- **Strategy 2:** Harmonise human activities including socialisation with nature.

Policy R4.7: Make the transition towards and encourage the adoption of organic agriculture or climate smart agriculture to enhance the economic, social and environmental development.

- **Strategy 1:** Define the way forward for transition to and the adoption of organic farming by local farmers.
- **Strategy 2:** Put in place organic farming.
- **Strategy 3:** Evaluate the pressures of farming/ livestock productions on the ecosystem.
- **Strategy 4:** Match ruminant productions on carrying capacity.

Policy R4.8: Promote livestock herd management system to sustain and nurture basic natural resources.

- **Strategy 1:** Update livestock population in Rodrigues.
- **Strategy 2:** Match ruminant productions on carrying capacity.

Appendix 5: Land and Coastal Rehabilitation

Policy R5.1: Sustainable land use planning practices in place over the whole island.

- **Strategy 1:** Sustainable land use planning practices in place over the whole island.
- **Strategy 2:** Promote working landscapes with ecosystem services to improve agro-biodiversity.
- **Strategy 3:** Ensure full operation and application of the Natural Resource Information System.

Policy R5.2: Promote working landscapes with ecosystem services to improve agro-biodiversity.

- **Strategy 1:** Engage all concerned stakeholders working in the coastal zones in adaptation and sustainable development.
- **Strategy 2:** Provide relevant guidance for protecting existing critical ecosystems, existing coastal development, and future investment.
- **Strategy 3:** Ensure the implementation of recommendations linked to Rodrigues made under past ICZM reports.

Policy R5.3: Ensure full operation and application of the Natural Resource Information System.

- **Strategy 1:** Develop a holistic watershed management planning and management for the island.
- **Strategy 2:** Support essential data collection and information sharing.

Appendix 6: Greening Up the Economy/ Business

Policy R6.1: Creation of an institutional framework for green economy

- **Strategy 1:** Establishment of a committee/ board to oversee the development of green economy/ business in Rodrigues.

Policy R6.2: Creation of a sustainable value chain model for Rodrigues.

- **Strategy 1:** Establishment of strong linkage between enterprises in the green value chain (circular economy).
- **Strategy 2:** Establishment of green certification/ label for participants of the value chain.

Policy R6.3: Dissemination of information and training.

- **Strategy 1:** Adoption of effective communication strategy for the promotion of the green economy.
- **Strategy 2:** Capacity building of stakeholders of the green value chain.

Policy R6.4: Incentivise green initiatives by private entrepreneurs.

- **Strategy 1:** Promotion of existing facilities for green entrepreneurs.
- **Strategy 2:** Creation of special scheme for green businesses to attract entrepreneurs.

Policy R6.5: Improve competitiveness of green products and services.

- **Strategy 1:** Improvement in the visibility of green enterprises and products.
- **Strategy 2:** Creation of a stable demand and establishment of supply chain among green businesses.

Appendix 7 : Rodrigues La Culture Environnementale - Proposed Strategies

Policy R7.1: Set up a network to include all related stakeholders for mass sensitisation of the population on environmental issues.

- **Strategy 1:** Creation of an Environmental Awareness and Sensitisation Committee at the level of the CfE by adopting a top-down and bottom-up approach for fostering discussions on environmental issues to encourage informed decisions and to guide the population towards developing better environmental stewardship.
- **Strategy 2:** Develop partnership initiatives and motivate the stakeholders for their involvement.
- **Strategy 3:** Empower the local stakeholders and organisations involved in environment initiatives.
- **Strategy 4:** Develop sensitisation materials and tools to promote sound environmental practices.

Policy R7.2: Propose activities for the review and updating of school curricula and promote extra-curricular activities to instill the environmental culture.

- **Strategy 1:** Promote outdoor activities.
- **Strategy 2:** Recommend that school curricula consider more local issues/ practical activities.

Policy R7.3: Revisit policies of private, public and other institutions.

- **Strategy 1:** Develop an Environmental Charter in all organisations/ institutions.
- **Strategy 2:** Coordinate events' celebration to enhance local initiatives.

Appendix 8: Renewable Energy

Policy R8.1: Promote energy efficiency over the island.

- **Strategy 1:** Improve understanding about actual consumption and future demand.

Policy R8.2: Favour the maximum use of renewable energy over Rodrigues Island by the year 2050 as per the vision set up by the RRA.

- **Strategy 1:** Develop and implement renewable energy projects to achieve 100% renewable energy.
- **Strategy 2:** Enable policies and financial resources to foster the renewable energy use in Rodrigues Island.

Policy R8.3: Extensive sensitisation of Rodrigues Island's population about the use and importance of renewable energy.

- **Strategy 1:** Over 75% of population sensitised about the importance of renewable energy.

Policy R8.4: Reinforce local capacities for promoting/ developing renewable energy over Rodrigues Island.

- **Strategy 1:** Increase local technical expertise and knowledge about renewable 'green' energies.
- **Strategy 2:** Adopt a decentralised approach for energy generation in Rodrigues Island.

11.0 RODRIGUES ACTION PLAN

- **Funds earmarked for the Rodrigues Action Plan are contingent on obtaining budget from annual Government appropriations and/or from donors.**

- **The provision of adequate staffing and resources is subject to the economic situation of the country at the budget time and is highly dependent on financial and other resources available.**

- **Fiscal incentives and subsidies will have to be clearly defined and will be subject to policy decision. They also depend on affordability in relation to revenue/ growth to be triggered.**

Box 5: Remarks from the Ministry of Finance, Economic Planning and Development (Rodrigues)

11.1 Action Plan for Waste Management

THEME 1: WASTE MANAGEMENT				
Policy 1:	**Promote circular economy**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Develop an integrated solid waste management strategy	Preparation of a terms of reference and recruitment of a consultancy firm.	0 – 2 years Short-Term	8	CfE
	Undertake surveys to develop baseline data on solid wastes (generation, projections, types, etc).	Immediate-Term	In-kind	CfE
Adopt "Reduce, reuse, recycle, recover" as principles	Training of entrepreneurs in recycling of electronic wastes.	0 – 2 years Short-Term	3	CfE/ Commision for Licensing
	Scheme for entrepreneurs involved in waste recycling businesses.	4 -5 years Long-Term	50	CfE
	Training of hospital staff in managing medical wastes.	0 – 2 years Short-Term	1	Commision for Health
	Training of staff of the Environment Unit on hazardous wastes, including asbestos and radioactive wastes.	0 – 2 years Short-Term	2	CfE
	Sensitisation of waste operators and of the public.	0 – 2 years Short-Term	In-kind	CfE
	Regulation to address pesticides wastes and enforcement.	Immediate-Term	In-kind	CfE
TOTAL			**64**	

THEME 1: WASTE MANAGEMENT				
Policy 2:	**Promote sound liquid waste management**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Strengthening water and wastewater quality monitoring and enforcement.	Create a unit within the Environment Division for liquid waste management.	4 – 5 years Long-Term	25	CfE
	Capacity building of officers of the Environment Division.	Immediate-Term	2	CfE
	Construction of a laboratory with state of the art technology and equipment.	4 -5 years Long-Term	50	Commission for water
	Increase the number of Environment Enforcement Officers to unforce existing legislation.	4 -5 years Long-Term	In-kind	CfE
TOTAL			**77**	

THEME 1: WASTE MANAGEMENT				
Policy 3:	**Develop a plan for raising awareness for the private sector, educational institutions and households with regards to waste management**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Devise awareness campaigns through appropriate media outlet.	Creation of a blog for the Environment Division.	0 – 2 years Short-Term	0.025	CfE
	Creation of a YouTube channel for the Environment Division.	0 – 2 years Short-Term	0.025	CfE
	Creation of pages on most popular media with the local population.	0 – 2 years Short-Term	0.025	CfE

THEME 1: WASTE MANAGEMENT				
Policy 4:	**Provide appropriate infrastructure for waste management activities**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Construction of a landfill for non-recyclables.	Preparation of a terms of reference and recruitment of a consultancy firm.	0 – 2 years Short-Term	2	CfE
	Invitations to tender and construction of landfill based on consultancy firm recommendations.	2- 4 Years Medium-Term	150	CfE
Construction of a wastewater treatment plant.	Construction of waste treatment plant.	0 – 2 years Short-Term	funded	CfE
	Create regulatory framework to encourage wastewater treatment in public and private institutions.	0 – 2 years Short-Term	In-kind	CfE
	Scheme for domestic water recycling and eco-toilets.	2- 4 Years Medium-Term	25	CfE
TOTAL			**177**	

THEME 1: WASTE MANAGEMENT				
Policy 5:	**Improve existing institutional framework to foster effective waste management.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Review of the Rodrigues Environment sub-committee.	Reactivate sub committees under the Rodrigues Environment Committee.	0 – 2 years Short-Term	In-kind	CfE
	Creation of a new sub-committee under the Rodrigues Environment Committee for continuous monitoring of packaging to ensure compliance with sustainable packaging standards.	0 – 2 years Short-Term	In-kind	CfE
TOTAL			–	

11.2 Action Plan for Climate Change and Disaster Risk Reduction

THEME 2: CLIMATE CHANGE AND DISASTER RISK MANAGEMENT				
Policy 1:	**To integrate and mainstream climate change in all future sectoral developments such as agriculture, fisheries, tourism, infrastructure, coastal zone, water, health, energy, transport, waste and land-use planning.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Assess and develop adaptation plans in key sectors.	Contract International consultancy services to carry out additional studies into the potential local impacts of climate change and natural hazards (e.g sea level rise and coastal erosion).	2023	3.0	CfE
	Prepare an integrated water management plan to improve data collection, management and protection of water resources, including a waste water management strategy. The services of international consultant will be solicited.	2022	2.5	RRA
	Address the issue of salt water intrusion in coastal boreholes.	2022	1	RRA
Develop tools to carry out vulnerability and risk assessments as well as carbon footprint assessment.	Develop consolidated plans for mitigation and adaptation in all the mentioned sectors by hiring international consultant and implementing agencies.	2025	5	RRA
	Conduct GIS based modelling studies to assess coastal vulnerability, flood and land slide risks. The services of international consultant to be solicited.	2022	3	CfE
	Promote the use of sensors in monitoring exercises such as sea water temperature and fish diversity. The national consultant will carry out this assignment.	2022	1.5	CfE
TOTAL			**16**	

THEME 2: CLIMATE CHANGE AND DISASTER RISK MANAGEMENT				
Policy 2:	**Increase the sink capacity through greening and reforestation activities at various levels.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance participation and empower the population in local reforestation initiatives.	Promote the community forestry development in villages and public places with the participation of local people and NGOs. (*Same is considered under the terrestrial biodiversity theme.)*	2022	In-kind	CfE/NGOs
	Promote the development of commercial forestry projects. *(Issue considered under the terrestrial biodiversity theme).*	2022	In-kind	Community/ RRA
Develop a more appropriate land development policy and planning for conservation of green zones and for restoration purposes.	Creation of new zoning scheme for land, including the definition of activities within each zone and preparation of an integrated island-wide plan thereto. National consultancy services will be solicited.	2023	0.0	RRA
	Development of appropriate policies in infrastructural development for the consideration of greening activities as a special component.	2022	In-kind	RRA
Ensure effective protection and management of the ESAs.	Contract out national consultancy services to conduct a study to collect additional data and establish baselines for long term monitoring of the status and health of the ESAs. Promulgate the ESAs Regulations.	2022	2	NGOs/ CfE
	Set up a programme for the plantation and control of mangroves.	2022	3	NGOs/ CfE/Private Sector
TOTAL			**5.8**	

THEME 2: CLIMATE CHANGE AND DISASTER RISK MANAGEMENT				
Policy 3:	**Promote the use of renewable energy sources and energy efficiency, bio-farming and integrated waste management**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Expansion of renewable energy technologies and initiatives.	Development of a roadmap for the use of renewable energy. Project under pipeline/ AFD contribution. *Same is considered under the theme for Renewable Energy.*	2022	In-kind	RRA
Promote eco-friendly institutions/ buildings at all levels by adopting best practices such as renewable energy and energy efficiency, and encourage the construction of eco-buildings.	Use of hybrid and electric vehicles in the public sector.	2026	70	RRA
	Provision of subsidies to promote the use of electric vehicles.	2022	5	CfE
	Develop capacity building activities in sectors to promote energy efficiency solutions.	2022	0.85	CfE
	Promotion of schemes for the use of solar water heater and other appliances.	2022	1.5	CfE
Promote sustainable waste management through waste segregation, recycling and composting as a means to reduce greenhouse gas emission from the landfill.	Setting up of a 'material recovery centre' for recyclables.	2022	41	CfE
	Promotion of awareness and sensitisation campaigns through the media on the importance of recyclable waste materials.	Immediate	In-kind	CfE
	Promotion of composting initiatives via the development of appropriate schemes.	2023	3	Commision for Agriculture
TOTAL			**121.35**	

THEME 2: CLIMATE CHANGE AND DISASTER RISK MANAGEMENT				
Policy 4:	**Promotion of institutional development on climate change adaptation, disaster risk reduction and mitigation measures.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Enhance access to information and capacity building of all stakeholders.	Contract national consultancy services for the preparation of a communication plan on climate change.	2022	0.275	CfE
	Education and awareness campaigns to sensitise the population about climate change through all media - radio, talks, TV, social media, pamphlets.	2022	0.225	CfE/NGOs
	Develop capacity building training guides for Officers and related stakeholders on climate change related issues including monitoring/ assessment of coastal erosion, mitigation and adaptation.	2023	0.475	CfE
	Develop module for training of trainers. The services of national consultant will be solicited.	2023	0.250	CfE
	Capacity building to de delivered by the MESWMCC on the related multilateral agreements, and national and international Protocols.	2022	0.170	CfE
	National consultant will be contracted to build capacity of local stakeholders in project formulation in relation to climate change.	2022	0.250	CfE
Enhance preparedness to deal with risks from climate change and disaster management.	Hire international consultancy services to carry out a feasibility study for the setting up of local early warning systems.	2023	1.20	Disaster Centre
	Hire national consultancy services to develop adapted logistic and technological outreach.	2022	0.275	Disaster Centre
	Conduct community disaster planning.	2022	In-kind	Disaster Centre
	Hire national consultancy services to undertake a disaster/ post disaster needs assessment and recovery.	2022	0.675	Disaster Centre
	Hire national consultancy services to develop appropriate building code.	2022	0.4	RRA
TOTAL			**4.195**	

11.3 Action Plan for Marine Ecosystem

THEME: MARINE ECOSYSTEM				
Policy 1:	**Restructure the Fisheries Research and Training Unit into the Marine Academy and Research Centre**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Rebranding of the different sectors to meet the management and policy objectives.	Provide appropriate facilities (equipment and infrastructure) for upgrading of each sector.	2022	34	RRA/CfE
	Consultancy for the review of the organisational structure of the sectors to enhance proper management, administration and research development.	0 – 2 years Short-Term	5	CfE
Harmonising the efforts for a holistic management, conservation and protection of the marine resources.	Promote collaboration with the AFRC, the MOI, the UOM, NGOs, and other relevant institutions.	2022	0.5	CfE
	Strengthen research, data collection, information sharing and dissemination of results.	2-4 years Medium-Term	0.5	CfE
	Improve the coordination mechanism and consultative process.	0 – 2 years Short-Term	In-kind	CfE
	Promote and support alternative livelihood to the fishers communities such as sustainable marine culture development.	Medium-Term	10	RRA/ CfE
	Strengthen the management of Marine Protected Areas (4 marine reserves, Marine Park and 4 Fishing reserves).	0 – 2 years Short-Term	5	CfE
Enhance capacity of staff and relevant stakeholders involved in the restructuring process.	Build technical capacity of all stakeholders.	2-4 years Medium-Term	1	National/ International consultant/ RRA
TOTAL			**16**	

THEME: MARINE ECOSYSTEM				
Policy 2:	**Develop a strategic plan for the fisheries sector for Rodrigues and strengthen the fisheries sector with adequate staff and capacity building.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Establish a proper capacity building programme for both Government Officers and the fisher community.	Stocktaking of the training gaps of Government officers and fishers for facilitating development of tailor-made capacity building programme.	0 – 2 years Short-Term	1	Consultant
	Development/ elaboration of training programme for Government officers and fishers.	0 – 2 years Short-Term	1	CfE
	Evaluation of the impacts of the training.	2-4 years Medium-Term	0.2	National/ International consultant
	Awareness raising campaign for the fisher community and school children for the promotion of in-lagoon and off-lagoon fisheries protection and conservation.	0 – 2 years Short-Term	0.5	CfE
	Establishment of the human capital requirement for proper management of the marine and fisheries resources.	2-4 years Medium-Term	2	CfE
Strengthen existing seasonal closure and introduce new closure for other fisheries.	Elaboration of new legislations for the different targeted fishery.	0 – 2 years Short-Term	0.1	CfE
	Review of the existing legislations.	2-4 years Medium-Term	In-kind	CfE
	Conduct surveys to ensure the proper recording of data for analysis of the current stock.	2-4 years Medium-Term	0.3	CfE
	Participatory approach to the closure through awareness raising of the community.	2-4 years Medium-Term	0.1	CfE
Recruitment of key human resource including scientific staff.	Review of the existing organisational set up of the Fisheries Division and identify gaps for effective implementation of policies.	2-4 years Medium-Term	In-kind	CfE
	Strengthen human resources capacity.	2-4 years Medium-Term	0.2	RRA
	Setting up of appropriate infrastructure for research, including a laboratory.	2-4 years Medium-Term	15	RRA/ CfE

Provide enabling environment to facilitate the Fisheries Division to conduct scientific research works.	Providing key sectors with the necessary equipment and materials.	2-4 years Medium-Term	1	CfE
	MOU with relevant local and regional institutions to facilitate the transfer of knowledge and know-how.	2-4 years Medium-Term	In-kind	CfE
	Enhance greater cooperation with the AFRC, the MOI and other regional and international research centres.	0 – 2 years Short-Term	In-kind	CfE
TOTAL			**16.2**	

THEME: MARINE ECOSYSTEM				
Policy 3:	**Sustainably exploit the unexploited off-lagoon resources.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Survey of the potential of the fishing ground, including the fishing banks around Rodrigues (East Bank).	Carry out a stock assessment of the fishing banks and EEZ around Rodrigues, including the inner lagoon.	2-4 years Medium-Term	2	Consultant/ CfE
	Improve vessel monitoring system/ monitoring control and surveillance.	2-4 years Medium-Term	18	CfE
	Improve data monitoring system.	0 – 2 years Short-Term	0.3	CfE
	Capacity building for the adoption of new fishing techniques particularly for the outer lagoon and bank fishing.	2-4 years Medium-Term	0.5	CfE
Extension of the fisheries management to the fishing banks around Rodrigues.	Develop and implement sustainable fisheries management plans.	2-4 years Medium-Term	0.5	CfE
	Review and update policy and regulatory framework.	2-4 years Medium-Term	0.1	Consultant/ CfE
TOTAL			**21.4**	

11.4 Action Plan for Terrestrial Biodiversity

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 1:	**Ensure that all current and future developments maintain the integrity of existing biodiversity or improve its preservation, and that any legitimate loss of ecosystems services be compensated using Strategic Environmental Assessment and Natural Capital Accounting.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Mapping, ranking and demarcation of biodiversity conservation zones.	Setting up of a committee with all stakeholders to identify the biodiversity conservation zones.	0 – 2 years Short-Term	In-kind	RRA/CfE
	Based on the recommendation of the committee, biodiversity conservation zones will be fenced-off and demarcated by the Commission for Environment (Forestry Service).	2-4 years Medium-Term	3	RRA/CfE
	Reclaiming of river reserves, *pas géométrie*s, sand dunes and seagrass beds among others, by encouraging authorities and all stakeholders to initiate restoration of these areas, including planting of native trees.	4 - 5 Long-Term	3	RRA/CfE
	Identification and proclamation of new areas for the setting up of conservation areas (e.g. Mourouk, Cascade Pigeon, extension of Grande Montagne and Anse Quitor Nature Reserves).	2-4 years Medium-Term	0.5	RRA/CfE
Reviewing of existing development mechanisms for the protection of biodiversity.	Undertaking a Strategic Environmental Assessment on biodiversity conservation to guide current and future development, which is harmonised with climate change policies.	2-4 years Medium-Term	1.5	RRA/CfE
	Improving development control through the integration of biodiversity in Environmental Impact Assessment (EIA) and Building and Land Use Permit (BLUP).	0 – 2 years Short-Term	In-kind	RRA/ CfE and Infrastructure Housing
	Developing guidelines to assess the biodiversity component within an undertaking under the EIA process.	Short/Medium-Term	1	RRA/CfE
Preserving biodiversity conservation.	Enhancing control of access and security to be strengthened to all protected areas including Nature Reserves.	0 – 2 years Short-Term	2	RRA/CfE
	Strengthening protection of native (including endemic) species, ecosystems and functional biodiversity, at the same time stopping and avoiding using invasive and potentially invasive alien species.	2-4 years Medium-Term	2	RRA/CfE/Forestry

Restore natural endemic coastal vegetation	Use of appropriate native and endemic plant species for the restoration of coastal areas.	0 – 2 years Short-Term	2	RRA/CfE/Forestry
	Replace fallen/ dead trees and exotic trees (old *Casuarina equisetifolia* plants) within coastal zones with appropriate native coastal vegetation.	0 – 2 years Short-Term	2	RRA/CfE/Forestry
TOTAL			**9**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 2:	**Increase awareness, participation and engagement of stakeholders at all levels for the protection of biodiversity.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Sensitisation/ public awareness on biodiversity	Developing an effective biodiversity communication mechanism and awareness strategy for Government, the private sector and the civil society for fully-informed decision-making at all levels and towards sustainable use of natural resources and conservation of biodiversity.	2-4 years Medium-Term	1.5	RRA/Forestry
	Setting up Environment Charters, including biodiversity and climate change.	0 – 2 years Short-Term	1.5	RRA
TOTAL			**3**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 3:	**Improve, coordinate and harmonise institutional and legislative frameworks as well as enhance accountability and transparency, and effective enforcement of biodiversity conservation.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Strengthen institutions and legislations for effective and efficient enforcement of biodiversity protection	Reviewing and creating tools to ensure enforcement of legislations pertaining to biodiversity preservation.	0 – 2 years Short-Term	1	RRA
	Strengthening capacity and cooperation of resources for all stakeholders including for example, the Forestry Service, NGOs and the private sector.	2-4 years Medium-Term	In-kind	RRA
	Encouraging the use of technological tools (like drones and satellite images see above) for real time data for better enforcement.	2-4 years Medium-Term	2	RRA
	Come up with a structure and new legislation to protect local agricultural biodiversity.	2-4 years Medium-Term	1	RRA/ CfA
	Regulate the animal production based on carrying capacity/ available resources and the controlled movement of herds.	2-4 years Medium-Term	1	RRA/ CfA
TOTAL			**5**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 4:	**Provide financial support and fiscal incentives to the private sector and NGOs to promote biodiversity conservation and its sustainable use, and remove incentives and easements that threaten biodiversity.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To devise financial and fiscal tools to help promote biodiversity conservation among private sector and civil society organisations	Creation of fiscal incentives and eliminate dis-incentives to favour and reward biodiversity conservation.	2-4 years Medium-Term	2	RRA/ CfE
	Developing and adopting a financial resources mobilisation strategy and action plan, targeting all potential public and private sources, leading to substantial increase, based on accountability and transparency for funding of biodiversity relevant projects.	2-4 years Medium-Term	1.5	
	Ensuring coordination between funders for effective use of resources.	4 - 5 years Long-Term	In-kind	
	Amending the CSR guidelines to include components on biodiversity conservation.	2-4 years Medium-Term	1	
	Increase the participation of NGOs and other Civil Society Organisations.	0 – 2 years Short-Term	In-kind	
	Encouraging voluntary investment from the private sector for biodiversity conservation.	2-4 years Medium-Term	In-kind	
	Undertake the valuation of ecosystems services (including future scenarios) for informed policy making.	4 - 5 years Long-Term	1.5	
Develop eco generative (financial agricultural) projects.	Ensure that Small and Medium Enterprise Cooperatives can benefit from incentives to participate in rehabilitation programmes which will generate financial revenue as well.	2-4 years Medium-Term	In-kind	CfA/ CfE
TOTAL			**6**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 5:	**Promote research and baseline data, and access to such data to support evidence-based policy and management of biodiversity.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Facilitate access to information related to research on biodiversity conservation to policymakers	Developing a monitoring mechanism for the collection of biodiversity data and increasing awareness and training for open data (from Government agencies, research institutions and others).	4 - 5 years Long-Term	1	RRA/ CfE
	Review priority areas for research funding to include aspects of native biodiversity such as taxonomy, ecology and conservation.	2-4 years Medium-Term	0.3	RRA/ CfE
	Improving existing regional platform for sharing of best practices and data on biodiversity.	2-4 years Medium-Term	1	RRA/ CfE
	Marketing Rodrigues as an ecological island for global biodiversity.	0 – 2 years Short-Term	2	RRA/ CfE
	Encouraging collaboration with regional and international academia, and participate in centres and networks of excellence.	2-4 years Medium-Term	1	RRA/ CfE
Promote research in the field of agricultural biodiversity	With the participation/ contribution of local staff, to encourage research work in agricultural biodiversity.	2-4 years Medium-Term	1	RRA/ CfA/ CfE
	Facilitate access to university students for doing research works on local varieties/ species.	2-4 years Medium-Term	1	RRA/ CfA/ CfE
TOTAL			**7.3**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 6:	**Secure existing biodiversity conservation areas and create new ones across Rodrigues.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To increase resilience of our biodiversity across Rodrigues with harmonisation	Enhancing ecosystem resilience and the contribution of native biodiversity to increase carbon stocks, and focusing on conservation and restoration, including restoration of degraded ecosystems, thereby contributing to climate change mitigation and adaptation.	4 - 5 years Long-Term	3	RRA/Finance/CfE
	Using efficient biocontrol for native biodiversity conservation.	Short/Medium-Term	3	
To harmonise human activities including socialisation with nature	Implementing a mechanism such as agro-forestry for biodiversity-friendly use and reforestation of abandoned land (using species that are not or do not have the potential to become invasive).	2-4 years Medium-Term	15	RRA/Finance/CfE
	Creation of recreational or leisure parks.	Short/Medium-Term	5	RRA/Finance/CfE
TOTAL			**26**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 7:	**Make the transition towards and encourage the adoption of organic agriculture/climate smart agriculture to enhance the economic, social and environmental development and to promote livestock herd management system to sustain and nurture basic natural resources.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Define the way forward for the transition to and the adoption of organic farming by local farmers	Examine the approach to be adopted, the time frame, certifying body/ bodies, accompanied legislations, marketing-consumer awareness in relation to organic farming.	2-4 years Medium-Term	2	CfA
Put in place organic farming	Improve the capacity of farmers for the adoption of organic productions with the promotion of local breeds/ varieties.	4 - 5 Long-Term	1.5	RRA/CfA
TOTAL			**3.5**	

THEME 4: TERRESTRIAL BIODIVERSITY				
Policy 8:	**Promote livestock herd management system to sustain and nurture basic natural resources**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Update livestock populations	Update livestock populations, tagging, follow movement of herds region wise (animals in - out), have up to date animal populations at hand, pasture areas, fodder reserves, fodder productivity and availability/ seasonality.	2-4 years Medium-Term	2	RRA/ CfA
Match ruminant productions on carrying capacity	Declaration and tagging of animals continuously (for weekly update of populations) and match herds as per carrying capacity region-wise.	Short/Medium-Term	2	RRA/ CfA
TOTAL			**4**	

11.5 Action Plan for Land and Coastal Rehabilitation

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 1:	**Promote land-use planning in the land management sector across the island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Sustainable land use planning practices in place across the whole island	Establish governance framework for the integrated planning process with a high-level decision-making committee, consultative committee to be informed by technical advisory groups to focus on specific issues, review the existing plans and work on the preparation of the integrated social, economic and environmental plan for Rodrigues.	Immediate	In-kind	RRA
	Set-up a full-fledged Planning Unit to help coordinate the preparation and implementation of the integrated spatial plan and strengthen staff capacity.	2-4 years Medium-Term	In-kind	
	Review Regulations/ permits such as 'cattlewalk' Regulations and excavation permits.	Immediate to Medium	In-kind	
Promote working landscapes with ecosystem services to improve agro-biodiversity	Preparation of a comprehensive biosecurity plan in the agricultural sector.	2-4 years Medium-Term	1.1	RRA/ CfA
	Review and update policies related to invasive species and biosecurity and introduce new Regulations as required.	2-4 years Medium-Term	1.1	
	Study to assess the need to establish ex-situ conservation efforts (gene banks, seed banks, international botanical gardens) to protect/ conserve endangered endemic species.	2-4 years Medium-Term	0.5	
	Reinforce the storage facilities on Rodrigues for fresh local produce (e.g. onions, potatoes etc.) and reduce and eventually eliminate the need to import fresh produce from Mauritius.	2-4 years Medium-Term	In-kind	
	Baseline assessment of current farming practices to determine if bio/ organic or not and capture good traditional practices (e.g. compost-making, crop rotation, intercropping).	Immediate	In-kind	

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 1:	**Promote land-use planning in the land management sector across the island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Research existing and new alternative 'bio'/organic fertilisers/ pesticides to identify appropriate solutions for Rodrigues, including capturing traditional practices (e.g. intercropping, crop-rotation, compost etc.).	Immediate	In-kind	
	Sensitisation campaign to raise awareness among Rodriguan planters about traditional farming practices, zero budget farming and bio/ organic farming for planters on Rodrigues.	Immediate	In-kind	
	Train planters in appropriate traditional and new bio/ organic techniques.	Immediate	In-kind	
	Set-up organic accreditation body, train assessors, and move towards certification and monitoring of planters.	2-4 years Medium-Term	1	
Ensure full operation and application of the Natural Resource Information System	Establish a multi-sectoral Geographical Information System (GIS) Unit, and strengthen staff capacities in data sharing and data management.	Immediate	2	RRA/ CfA
	Compile and review existing spatial datasets, and identify critical data gaps, including datasets that need updating or are of poor quality.	Immediate	In-kind	
	Prepare proposals and commission specialist studies to collect/ create new datasets to fill critical data gaps (e.g. habitat maps, topography, bathymetry, geology, soil typology, soil suitability, current historical land-use and vegetation maps, flood and landslide risk maps, coastal typology and vulnerability maps, coastal set-backs, pas géométrique, marine spatial plan, etc.).	Immediate	In-kind	
	Use new GIS datasets and analyses to undertake an island-wide Strategic Environmental Assessment for key economic activities/ sectors to inform planning and policy making for sustainable development.	2-4 years Medium-Term	1.1	
	Prepare GIS map showing the distribution of existing agricultural land, and identify and allocate other suitable areas to meet future demand, if necessary (e.g. soil suitability map).	Immediate	In-kind	
TOTAL			**6.8**	

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 2:	**Favour the practice of Integrated Coastal Zone Management in all coastal-related developments**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Engage all stakeholders working in the coastal zones in adaptation and Sustainable development	Strengthen Environmental and Social Impact Assessments (ESIA) processes and procedures, particularly public consultation and compliance monitoring and enforcement for all new developments, especially construction near or in Environmentally Sensitive Areas.	Immediate	0.5	RRA/ CfE
	Create an Education and Awareness Raising Section under the Commission responsible for Environment, revitalise the role of the ICZM Committee in this regard and create clear communication materials about integrated planning process and ICZM in Rodrigues.	Immediate	In-kind	
	Enhancement of mangrove habitats and extension of planting across river mouths to help trap sediments.	Immediate	In-kind	
Provide relevant guidance for protecting existing critical ecosystems, existing coastal development, and future investment	Create a new comprehensive integrated zoning scheme for land and sea, building upon previously prepared plans and zoning schemes, including specific zone types for the islets and buffers, and define permitted uses/ activities for each zone type.	Immediate	1.1	RRA/ CfE
	Introduce an appropriate regulation to provide a legal status to the Rodrigues ICZM Committee.	Immediate	In-kind	
	Set up an ICZM Unit under the Commission responsible for Environment to act as the secretariat for the ICZM Committee and to coordinate ICZM activities and monitor the implementation of the Rodrigues ICZM Action Plan.	Immediate	In-kind	
	Commission a study into the socio-economic and environmental impacts of sand mining inside the lagoon, and a feasibility study to provide recommendations and identify alternatives.	Immediate	2.2	
	Study the impact of the desalination plants on the lagoon, provide recommendations on the repositioning of intake and outfall pipes of existing plants.	Immediate	2.2	

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 2:	**Favour the practice of Integrated Coastal Zone Management in all coastal-related developments**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Ensure the implementation of recommendations linked to Rodrigues made under past ICZM reports	Ensure the implementation of recommendations linked to Rodrigues made under the 'National Coastal Zone Adaptation Strategy for Republic of Mauritius and Rodrigues' 2019 report.	2-4 years Medium-Term	In-kind	RRA/ CfE
	Monitor, review and update the ICZM Action Plan and align with National Environment Strategies (NES), National Environmental Action Plan (NEAP), National ICZM Action Plan, National Commitments and reports to UNFCCC.	Immediate	In-kind	
	Development and implementation of the Islet Management Plans.	Immediate	1.1	
	Development and implementation of Terrestrial Reserve Management Plans.	2-4 years Medium-Term	1.1	
TOTAL			**6.6**	

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 3:	**Promote a Ridge-to-Reef approach in the overall management of Rodrigues Island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Develop a holistic watershed management planning and management for the island	Review existing planning and building regulations and where necessary prepare new Regulations for each zone type to incorporate best-practices in sustainable building (e.g. 'Green Building' model, LEED Certification).	Immediate	0.5	RRA/ CfE
	Consultation on new zoning scheme and island-wide integrated plan and associated guidelines.	Immediate	1	
	Final amendments to zoning scheme and integrated plan, ready for submission to the Executive Council, and a new regulation to formally adopt the new integrated spatial plan for Rodrigues.	2-4 years Medium-Term	In-kind	

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 3:	**Promote a Ridge-to-Reef approach in the overall management of Rodrigues Island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Implement and maintain comprehensive island-wide environmental monitoring plan for selected key indicators.	Immediate	In-kind	
	Commission a study to collect baseline data on the presence of invasive alien or nuisance species in watershed environment.	Immediate	2.2	
	Prepare a communication plan and materials (TV, radio, newspaper, leaflets, social media) to sensitise the general public about the terrestrial reserves (nature reserves, forest reserves, river reserves and islets).	Immediate	In-kind	
	Sensitisation and awareness raising campaign about the terrestrial reserves (nature reserves, forest reserves, river reserves and islets).	Immediate	In-kind	
	Commission a study to assess the effectiveness and coverage of nature reserves, forest reserves and river reserves to adequately protect/ conserve endangered endemic species, including endemic founder plant species, and connectivity with marine protected areas.	2-4 years Medium-Term	2.2	
	Support the expansion of community forests projects to rehabilitate degraded land areas, particularly focusing on key watershed.	Immediate	20	
	Implement more actions towards land and water conservation (e.g. terracing, gabions) and promote agricultural practices.	Immediate to Medium	15	
Support essential data collection and information sharing	Prepare a new integrated (terrestrial and marine) planning framework to make Rodrigues an ecological island, building on previous plans and mobilise resources for capacity building and implementation.	Immediate	1.1	
	Prepare the integrated spatial plan for Rodrigues land and sea areas using the newly devised zoning scheme, Strategic Environmental Assessment and GIS datasets.	2-4 years Medium-Term	2.2	RRA/ CfE
	Review existing environmental monitoring programmes (e.g. marine and terrestrial habitats, species, marine water quality, ground-water resources etc.), select key indicators and prepare comprehensive	Immediate	In-kind	

THEME 5: LAND AND COASTAL REHABILITATION				
Policy 3:	**Promote a Ridge-to-Reef approach in the overall management of Rodrigues Island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	island-wide long-term monitoring plan to inform adaptive management.			
	Commission a study to review and update the typology and maps showing Environmentally Sensitive Areas (ESAs) on Rodrigues and collect baseline data for the long-term monitoring of the status and health of the ESAs.	Immediate	2.2	
TOTAL			**46.4**	

11.6 Action Plan for Greening up the Economy/ Business

THEME 6: GREENING UP THE ECONOMY BUSINESS				
Policy 1:	**Creation of an institutional framework for the green economy**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Establishment of a committee/ board to oversee the development of green economy/ business in Rodrigues.	Inter-organisational coordination to create enabling condition for the setting up of the committee.	0 – 2 years Short-Term	In-kind	CfE
	Establishment of a cell within the Environment Division to advise the committee on state-of-the-art knowledge on green economy.	Immediate	In-kind	CfE
	Draft of term of reference of committee/ board.	0 – 2 years Short-Term	In-kind	CfE
TOTAL			**0**	

THEME 6: GREENING UP THE ECONOMY/ BUSINESS				
Policy 2:	**Creation of a sustainable value chain model for Rodrigues**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Establishment of strong linkage between enterprises in the green value chain (circular economy).	Set up a framework to ensure that sustainable measures and practices are being adhered to by all stakeholders in the value chain.	0 – 2 years Short-Term	In-kind	CfE
	Establishment of well-defined and structured supply chain.	0 – 2 years Short-Term	In-kind	Green Economy Board
Establishment of green certification/ label for participants of the value chain.	Formulate a stepwise approach to certify green products and services.	Immediate	0.3	SME Mauritius and Invest Rodrigues
	Preparation of term of reference and recruitment of a consultancy firm.	Immediate	1	Inter-agency
TOTAL			**1.3**	

THEME 6: GREENING UP THE ECONOMY/ BUSINESS				
Policy 3:	**Dissemination of information and training in connection with the greening of the economy**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Adopt an effective communication strategy for the promotion of green economy.	Awareness campaigns through social media and other media, to sensitise the public on the importance of greening the economy.	0 – 2 years Short-Term	0.1	CfE
	Information campaign targeting potential green entrepreneurs through seminars and workshops.	0 – 2 years Short-Term	0.1	CfE
Capacity building of stakeholders of the green value chain.	Setting up of an incubation training center for green entrepreneurs on a “do and learn” basis.	2-4 years Medium-Term	20	SME Mauritius and Invest Mauritius
	Training on sector specific green issues through seminars, workshops and short courses.	Medium and Long Term	10	CfE
TOTAL			**30.2**	

THEME 6: GREENING UP THE ECONOMY/ BUSINESS				
Policy 4:	**Incentivise green initiatives by private entrepreneurs**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Promotion of existing facilities for green entrepreneurs	Gather information on all loans, subsidies and schemes targeting green entrepreneurs.	0 – 2 years Short-Term	In-kind	CfE and SME
	Spread information obtained through appropriate media.	0 – 2 years Short-Term	In-kind	Inter-agency
Creation of special scheme for green businesses to attract entrepreneurs	Inter-organisational coordination to look into the financial constraints of entrepreneurs in adopting sustainable measures/ practices (sector specific) and propose adequate schemes to address same.	4 - 5 years Long-Term	1	Inter-agency
	Subsidy on tools and equipment used by green entrepreneurs.	0 – 2 years Short-Term	5	CfE and Invest Rodrigues
TOTAL			**6**	

THEME 6: GREENING UP THE ECONOMY/ BUSINESS				
Policy 5:	**Improve competitiveness of green products and services**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Improve the visibility of green enterprises and products	Implementation of marketing strategy for green products and services in Rodrigues.	4 - 5 years Long-Term	2	Inter-agency
	Establishment of green certification /label.	4 - 5 years Long-Term	5	Inter-agency
Creation of a stable demand and establishment of supply chain among green businesses	Foster the procurement of green products and services in public institutions, large hotels and among households.	4 - 5 years Long-Term	1	Inter-agency
	Establishment of a strong forward and backward linkages between green tourism and ecotourism, green agricultural and agro industry products and services, green manufacturing products and processes, handicrafts and green energy.	4 - 5 years Long-Term	2	Inter-agency
TOTAL			**10**	

11.7 Action Plan for La Culture Environnementale

THEME 7: LA CULTURE ENVIRONEMENTALE				
Policy 1:	**To set up a network to include all stakeholders for mass sensitisation of the population on environment issues.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Develop partnership initiatives and motivate the stakeholders for their involvement	Conduct sectoral meetings and working sessions with the organisations such as the RCSS, environment representatives on the village committees, cooperative societies and Associations. Set up a *'Conseil pour l'Environnement'*.	2022	In-kind	CfE
	Enhance participation of private companies in funding and adopting environmental initiatives.	2022	In-kind	CfE
	Provide financial support for NGOs involved in awareness, sensitisation and training programmes.	2022	1.5	CfE
	Devise a more intensive awareness and sensitisation campaign.	Immediate	1	CfE
Empower local stakeholders and organisations involved in environmental initiatives	Conduct target training for the different groups and organisations.	2022	In-kind	NGOs/ CfE
	Create a pool of Environmental Peer Educators to empower the population at various levels and to provide training on various topics such as climate change, coastal zone management, pollution prevention, biodiversity, waste management, and sound environmental practices (agent de l'Environnement).	2022	0.8	CfE
	Capacity building of the different local partners for better involvement in developing environmental projects and respond to call for proposals.	2022	0.3	CfE
	Support the promotion of environmental initiatives such as community gardening, composting, clean ups and embellishment/ landscaping.	2022	0.5	CfE
	Production and broadcast of TV spots on a daily basis.	Immediate	1	CfE
	Promote the celebration of environmental events at grass root levels including the communities and educational institutions.	2022	1.0	CfE

Organise activities to enhance the participation of the local communities and other stakeholders	Conduct exhibitions on pertinent environmental issues to reach people living in remote areas.	2022	1.0	CfE
	Motivate people through cultural activities related to environmental protection such as songs and slam competitions.	2022	0.4	CfE
	Conduct regular campaigns on environmental issues such as *'Mo Zoli Vilaz'* which has been launched recently.	2022	0.5	CfE
Development of sensitisation materials and tools to promote sound environmental practices	Set up a dedicated and fully equipped Unit for the coordination and promotion of all awareness and sensitisation activities.	2024	5.0	RRA
	Develop sensitisation materials such as pamphlets, brochures and CDs, all year round to be disseminated to the population.	2022	1.0	CfE
TOTAL			**14**	

THEME 7: LA CULTURE ENVIRONMENTALE				
Policy 2:	**To propose activities for the reviewing and updating curriculum and/or extra-curricular activities to instil the environment culture.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
To promote outdoor activities	Extend projects like Eco Schools and Sand Watch in all educational institutions.	2022	0.3	CfE
	Students to be more exposed to hands-on activities such as regular visits to restoration activities, monitoring/ control of beach erosion and nature reserves.	2022	In-kind	CfE
	Environmental initiatives to be adopted since pre-primary school level.	2022	In-kind	CfE
To recommend that school curricula considers more local issues/ practical activities.	Committee to be set up to work out recommendations thereto.	2022	In-kind	RRA
	All Educational Institutions to be provided with special classes for the holding of awareness and sensitisation activities.	2022	In-kind	CfE
TOTAL			**0.3**	

THEME 7: LA CULTURE ENVIRONMENTALE				
Policy 3:	**To revisit policies of institutions (such as schools, government & private bodies, SMEs, and others) to encourage best environmental practices and celebrate world events such as World Environment Day and World Ocean Day.**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
All institutions such as schools, Government & private bodies will be required to develop and implement an Environmental Charter	Activity to be launched concurrently in all private and public institutions with the support of the CfE.	2022	0.28	CfE
Celebration of events	Celebration of major international environmental events such as World Environment Day and World Clean Up Day to form part of the school programme. To be coordinated by the Commission.	2022	0.28	CfE
TOTAL			**0.56**	

11.8 Action Plan on Renewable Energy

THEME 8: RENEWABLE ENERGY				
Policy 1:	**Promote Energy Efficiency over the island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Improved understanding about actual consumption and future demand	Commission baseline studies to determine actual consumption of electricity, vehicle fuels and other fuels (e.g. cooking gases) and predict future demand.	Immediate	5	RRA/ AFD
	Commission feasibility studies to determine the most appropriate renewable energy options to meet existing and future demand in Rodrigues.	Immediate		
	Support energy efficiency in households through promotional initiatives (provision of energy efficient lighting) and incentives (custom tax rebates on energy efficient technology) to encourage the use of innovative technologies.	Medium/ Long-Term	25	RRA
	Mandate the usage of energy efficiency labels for electrical appliances (refrigerators, light bulbs, washing machines, air conditioners), and prohibit the importation and sale of electrical appliances with energy efficiency standards of less than "A" in Rodrigues.	2-4 years Medium-Term	In-kind	RRA
TOTAL			**30**	

THEME 8: RENEWABLE ENERGY				
Policy 2:	**Favour the maximum use of Renewable Energy over Rodrigues Island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Development and implementation of renewable energy projects to achieve 100% renewable energy	Develop a roadmap/ action plan to achieve 100% renewable energy use in Rodrigues.	Immediate	35	RRA/ AFD
	Finalise renewable energy policy to achieve 100% renewable energy use in Rodrigues.	Immediate		
	Establish a Renewable Energy committee comprising the Commission for responsible for Environment, the CEB, and the Commission responsible for public infrastructure to spearhead the process of conversion of renewable energy system.	Immediate to Medium-Term		
	Carry out detailed resources assessment to quantify the practicable potential of various renewable energy sources such as wood biomass, agriculture residues and livestock waste, solid waste and effluents, solar energy, wind energy and marine renewable energy resources.	Immediate		
	Support the development of Renewable Energy Services Companies (RESCOs) for the delivery and maintenance of decentralised RE systems such as solar water heaters and solar PV.	Medium to Long-Term	5	RRA
Enabling policies and financial resources to foster Renewable Energy use in Rodrigues island.	Leverage sufficient financial resources to support the implementation of an action plan for renewable energy projects.	2-4 years Medium-Term	50	RRA
	Develop incentive schemes/ subsidies to encourage homeowners to invest in renewable energy, and provide direct/ targeted assistance for people living in poverty.	2-4 years Medium-Term	25	RRA
	A new policy and regulation (Building Permits and State Land Act or Regulation) to state that all new developments must be 100% self-reliant in renewable energy or generate a fixed percentage of renewable energy (depending on the activity).	Immediate	In-kind	RRA
	Provide financial and fiscal incentives to facilitate the development of the decentralised RE market, including incentives for the household use of renewable energy (i.e. solar PV) and for the development of new private business in this sector.	Medium to Long-Term	10	RRA

THEME 8: RENEWABLE ENERGY				
Policy 2:	**Favour the maximum use of Renewable Energy over Rodrigues Island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
	Design financial instrument (combination of grant and loan) for the adoption of solar water heaters by households and hotels.	Immediate	25 plus In-kind	RRA
TOTAL			**150**	

THEME 8: RENEWABLE ENERGY				
Policy 3:	**Sensitise the population of Rodrigues Island about the use and importance of Renewable Energy**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Over 75% of the population sensitised about the importance of renewable energy	Prepare a communication plan and materials (TV, radio, newspaper, leaflets, social media) about the need for energy efficiency and the importance of renewable energy.	Immediate	In-kind	RRA
	Sensitisation campaign to raise awareness among the general public about the need for and the importance of renewable energy.	Immediate to Medium-Term	In-kind	
	Demonstration projects (waste-to-energy, biogas production, power generation using biomass etc) to increase social acceptability, and to build institutional and human capacity.	Immediate to Medium-Term	35	
	Collaborate with the Energy Efficiency Management Office (EEMO) of Mauritius for the sensitisation of local communities on Energy Efficiency Standards and Labels.	Immediate	In-kind	

THEME 8: RENEWABLE ENERGY				
Policy 4:	**Reinforce local capacities for promoting/ development of Renewable Energy across Rodrigues Island**			
Strategy	**Actions**	**Timeline**	**Costing (Rs M)**	**Responsible Agency**
Increase local technical expertise and knowledge about renewable 'green' energies.	Develop and implement short training courses about the different types of renewable energy from livestock and waste (e.g. solar, wind and biogas).	Immediate	In-kind	RRA
	Establish a scholarship scheme for school leavers to attend specialist training courses about renewable energy from livestock and waste (e.g. solar, wind and biogas).	2-4 years Medium-Term	10	
	Setting up of a dedicated body in Rodrigues island to look after the holistic implementation of Renewable Energy projects and policies, with fully trained personnel.	Immediate	In-kind	
	Organise specialised training courses on the installation and maintenance of renewable energy infrastructure, as well as on the installation of renewable energy technologies.	Medium to Long-Term	In-kind	MITD
Adopt a decentralised approach for energy generation in Rodrigues island	Reinforce the regulatory and institutional frameworks in Rodrigues for renewable energy, especially through the establishment of a Commission responsible for Energy matters.	Immediate	In-kind	RRA
	Adding the Renewable Sector as another field of responsibilities for the RRA under the RRA act.	2-4 years Medium-Term	In-kind	RRA
TOTAL			**45**	

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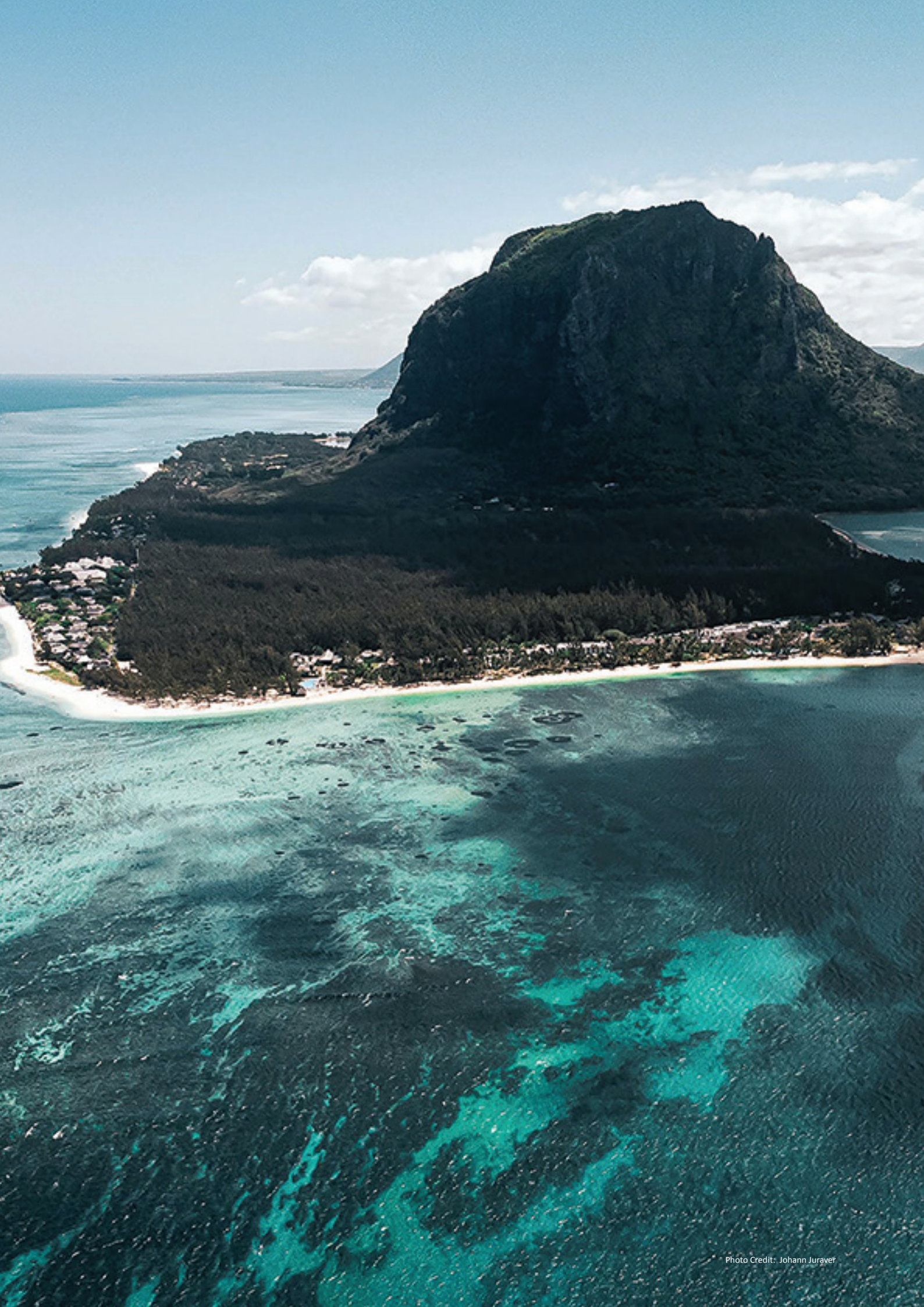

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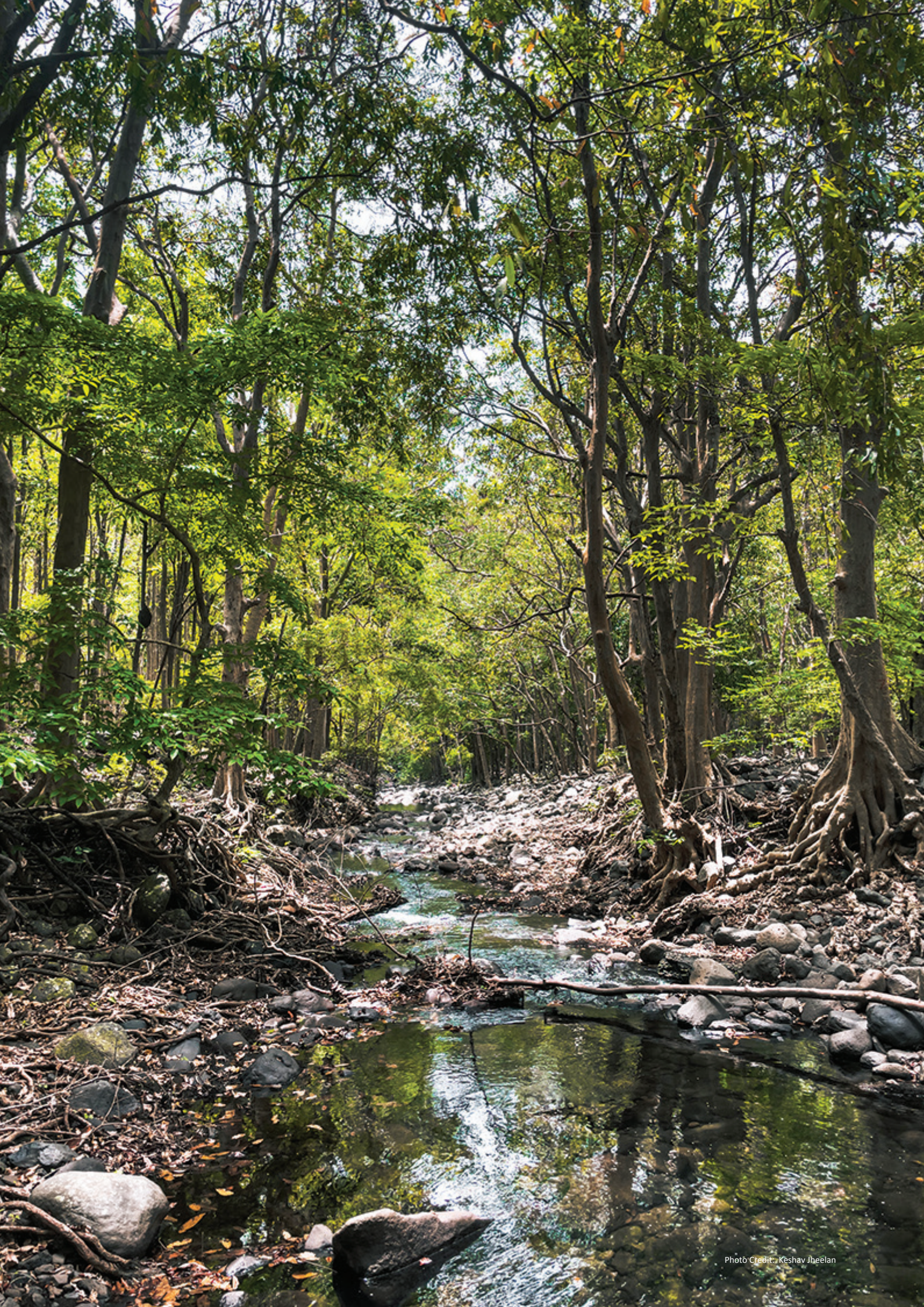

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