Annual Report on Performance

July 2017 – June 2018

MINISTRY OF SOCIAL SECURITY, NATIONAL SOLIDARITY, AND ENVIRONMENT AND SUSTAINABLE DEVELOPMENT (ENVIRONMENT AND SUSTAINABLE DEVELOPMENT DIVISION)
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Vision and Mission

To achieve a cleaner, greener and safer Mauritius in a sustainable manner, through protection and management of our environmental assets, mainstreaming sustainable development principles in different sectors of the economy, solid and hazardous waste management, enhanced resilience to disasters, and conservation and rehabilitation of beaches.

- Devise appropriate legal and policy framework regarding environment related issues such as climate change, solid and hazardous waste management, disaster risk reduction and beach management to effectively respond to emerging challenges;
- Incorporate climate change adaptation and mitigation measures to ensure sustainable development initiatives;
- Preserve our beaches through integrated coastal zone management;
- Devise effective waste management policy to minimise the negative impacts of solid and hazardous wastes; and
- Ensure effective disaster preparedness and response to enhance the safety and security of the citizens.
Statement from Minister

The financial year 2017-2018 has witnessed a number of important events in the environmental sector. One of the most noteworthy of these has been the promotion of a conducive business environment and positive investment climate by the Government which has led to a historic rise in the approval of EIA licences for projects, amounting to around Rs 16 billion.

Furthermore, two bodies, namely the National Environment Commission chaired by the Honourable Prime Minister and the Multilateral Environmental Agreements Coordination Committee, which never met under the nine years of the outgoing Government, have been addressing important national and international environmental issues, obligations and commitments.

Climate Change remains one of the biggest threats for our country and we cannot overemphasise that the World Risk Report 2017 has again ranked our island as the 13th country with the highest disaster risk and 7th on the list of countries most exposed to natural hazards. Adverse weather conditions are likely to occur more often and be more severe due to global warming and climate change. This is a stark reminder that we need to be ever prepared and build resilience against such calamities.

My Ministry is intervening on several fronts, be it in the field of mitigation or adaptation. With the advent of accelerated sea level rise causing an accentuation of beach erosion, a continuous coastal rehabilitation programme is being put in place with special regards to priority eroded sites based on recommendations made under different expert studies. Moreover, our country has initiated a series of measures in line with the Sendai Framework 2015-2030 with a focus on stronger risk management and community preparedness.

The sustainability of waste disposal and treatment facilities for the continued protection of public health and the protection of the environment also remains another daunting challenge for the country. To this end, my Ministry has taken appropriate steps to ensure the provision of adequate short-term disposal capacity of municipal solid waste, through optimisation of current void space at the Mare Chicose Landfill. The draft National Solid Waste Management Strategy with emphasis on Resource Recovery has been submitted to the Ministry and a feasibility study financed by the Agence Française de Développement is currently under way.

I make an appeal to my Officers to collaborate and contribute positively in order to achieve our vision and fulfil our duty towards making our country cleaner, greener and safer in a sustainable manner.

Etienne SINATAMBOU
Minister
The environment sector is a multi-disciplinary field which is all about human interaction with its surroundings, be it the natural environment or the man-made environment. It involves the need to conserve biodiversity, lead more sustainable lifestyles and use resources more equitably.

The Ministry has, during the past financial year, taken many initiatives to protect the environment. Firstly, on the international front, the Republic of Mauritius has ratified the Minamata Convention on Mercury in September 2017. It is a major international treaty aiming at protecting human health and the environment from anthropogenic releases of mercury and mercury compounds, which are dangerous pollutants.

The Ministry is also well set to beat plastic pollution. To encourage the collection of plastic (PET) bottles, the Ministry launched an eco bin project on the occasion of the World Environment Day celebrated on 05 June 2018, whereby plastic (PET) bottle collection facilities have been placed in Social Welfare Centres and Local Authorities around the island. Moreover, for the period July 2017 to June 2018, 218 contraventions have been established for the manufacture, sale and supply of banned plastic bags. A change in the mindset of traders, consumers and manufacturers has been noted with the import of nearly 1.8 million biodegradable bags which are being used by the general public.

In order to bring about long-lasting effect towards environmental stewardship, awareness raising remains an ongoing activity of the Ministry. From July 2017 to mid-June 2018, some 150 awareness raising activities have been conducted across the island on various environmental issues including plastic pollution.

Environmental monitoring is also an important tool for environmental protection. The Ministry is continuously measuring levels of air pollutants in urban regions, roadsides and hotspots. Where necessary, appropriate actions are taken by the Ministry to improve the air quality at pollution prone areas. River water quality monitoring is also regularly undertaken.

Due to the continued increase in solid wastes generation in Mauritius, the lifetime of the Mare Chicose landfill has decreased significantly. It was due to be saturated by the third quarter of 2018. However, in view of optimising available space, ‘wedge works’ have been carried out to provide for additional landfilling capacity of about 500,000 m$^3$ up to the end of 2019. In the meantime, procurement procedures have started for the enlistment of Consultancy services for the Vertical Expansion Works to provide landfilling capacity for another 5 to 8 years.

Over 193 inspections have been carried out in state and private secondary schools, laboratories in the public and private sector and major industries since April 2017 and over 30.6 tons of hazardous wastes have been collected and stored. A computerised system linking the hazardous waste generators, the operator of the IHWSF and the SWMD has now been set-up and is operational since May 2018.

To address illegal dumping of abandoned vehicles, a feasibility study for the setting-up and operation of a scrapyard facility for end-of-life vehicles is being envisaged. As regard construction and demolition wastes, they are being looked into through projects aiming at the setting-up and operation of temporary storage sites.

Mr. Roodradeo BHUGWANT
Permanent Secretary

Mr. Nazir SOOBRATTY
Permanent Secretary
Our key primary responsibilities are as follows:

- Consolidate the enabling legal and institutional set up;
- Co-ordinate, develop and implement policies, strategies and action plans;
- Process applications for environmental licences;
- Maintain and preserve a high quality environment;
- Enforce laws and standards through established protocols and in close collaboration with relevant enforcing agencies;
- Ensure sound environmental planning, education and guidance;
- Devise effective waste management measures to minimise the negative impacts of solid and hazardous wastes disposal;
- Coordinate activities for an integrated management of Coastal Zones;
- Ensure disaster risk reduction, preparedness and response to enhance the safety of the citizens of the Republic of Mauritius; and
- Implement provisions and decisions under relevant multilateral international and regional agreements.
<table>
<thead>
<tr>
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<th>Contact Details</th>
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<tbody>
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<tr>
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<tr>
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<td><strong>Dr. Dhuneevoy BISSESSUR</strong>&lt;br&gt;Phone: (230) 212-0059&lt;br&gt;Fax: (230) 212-0060&lt;br&gt;Email: <a href="mailto:beachauthority@intnet.mu">beachauthority@intnet.mu</a></td>
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Directorates

Processing of PER/EIA applications
Examine the environmental impacts, both beneficial and adverse, of proposed development projects

Advise industrialists and the public on appropriate pollution abatement measures
Carry out regular monitoring of environmental hotspots to prevent environmental pollution and degradation

Attending complaints made by the public regarding environmental pollution
- Effect site visits, individually or accompanied by the relevant enforcing agencies
- Notices are served in accordance with the provisions of the Environment Protection Act 2002 in cases where problems persist

Public Awareness and Environmental Education
- Impart Environmental Education in the non-formal sector
- Address all matters pertaining to Environmental Education through awareness campaigns and mass sensitisation through talks, educational trips, and nature discovery tours, seminars and clean-up operations

Infrastructure upgrading and enhancement of the environment
- Cleaning and desilting works at several sites such as River Latanier and River Ceres
- Upgrading of Pont Jasmin River Bank at L’Escalier and setting up of health track at Mapou
- Setting up of family garden at Bambous and fixing of children play equipment

Public access to environmental information
The Resource Centre of this Ministry enables the public in general, including students, researchers and consultants to have access to documents, magazines, copies of EIA reports and periodicals on environmental issues.
Coastal Zone Management
- Coordinate activities within the coastal zone and share information through consultation meetings with relevant stakeholders
- Carry out coastal protection works at selected affected sites

Climate Change
Formulate and coordinate measures pertaining to climate change risk assessment, adaptation and mitigation as well as fulfilling reporting requirements under the United Nations Framework Convention on Climate Change

National Disaster Risk Reduction and Management
The National Disaster Risk Reduction and Management Centre acts as the main institution in Mauritius for coordinating and monitoring the implementation of disaster risk reduction and management activities.

Solid Waste Management
The Solid Waste Management Division is responsible for the protection of the environment and public health through a proper management of solid and hazardous wastes.

Beach Management
The Beach Authority ensures an integrated approach for the proper control and management of proclaimed public beaches both in Mauritius and Rodrigues.

NGO Desk
This Ministry accommodates an NGO desk that provides support and technical assistance to NGOs registered at the Ministry. Moreover, the NGO desk at the Resource Centre serves as a focal point for NGO meetings.
About Our People

The workforce of the Ministry comprises diverse administrative, technical and professional competencies and is committed to address the environmental and developmental challenges facing our country and to perform at set standards. The key competencies, abilities and expertise possessed by the employees are in various fields as submitted hereunder:

- Public Policy and Public/Business Administration and Management;
- Ecology, Environmental Planning, Microbiology, Biotechnology Agriculture
- Environmental and Coastal Management, Water Resource Management;
- Climate Change Economics, Environmental Science, Environmental Economics, Environmental Law;
- Geology, Marine Science, Urban Planning, Sustainable Development;
- Civil Engineers registered as Professional engineer with the Council of Registered Professional Engineers of Mauritius;
- Computer Science, computer engineering, Information Systems;
- Journalism, Public Relations and Communication, Resource Management, Project Management and
- Agriculture, Botany, Biochemistry, Biology, Chemistry, Engineering (Chemical/Civil/Environmental).

Appropriate training is imparted to the staff with a view to increasing employee abilities and skills, positive attitude and commitment towards work.

Thus, a more highly skilled and flexible work force is a major factor for high productivity and quality performance.

Table 1: A breakdown of the workforce of the Ministry and courses attended by officers is provided below:

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<th>SN</th>
<th>Particulars –July 2017 to June 2018</th>
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<tr>
<td>1</td>
<td>Officers in Post</td>
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</tr>
<tr>
<td></td>
<td>a. Inspectorate Cadre (Living Environment Unit – LEU)</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>b. Workmen’s Class</td>
<td>555</td>
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<td></td>
<td>c. Department of Environment</td>
<td>82</td>
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<td></td>
<td>d. General</td>
<td>146</td>
</tr>
<tr>
<td></td>
<td>e. Others (STM and YEP)</td>
<td>3</td>
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<tr>
<td></td>
<td>f. Solid Waste Management Division</td>
<td>156</td>
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<td></td>
<td></td>
<td>956</td>
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<tr>
<td>2</td>
<td>Officers on Contract</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Officers attended Overseas Training /Mission/Seminars /Workshops/Conferences</td>
<td>72</td>
</tr>
<tr>
<td>5</td>
<td>Officers attended Training Courses run by the Civil Service College</td>
<td>44</td>
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Climate Change Division

1.0 Roles and Functions of the Division

- Develop a climate change mitigation and adaptation framework;
- Coordinate national, regional and international projects in relation to climate change and sea level rise;
- Conduct and report GHG emission inventories;
- Devise and coordinate the implementation of an inter-sectoral climate change monitoring programme and its reporting;
- Identify and coordinate Research and Development priorities associated with climate change and sea level rise;
- Follow up on matters pertaining to climate change in national, regional and international fora; and
- Conduct Public Outreach Programme.

2.0 Major Achievements for Period July 2017 to June 2018

(i) Preparation of the National Inventory Report of Greenhouse Gases under the Third National Communication for the Republic of Mauritius;

(ii) In view of strengthening institutional capacity for the preparation of national communications, three capacity building/training workshops were convened under the Third National Communication for the Republic of Mauritius:

- Capacity building/training workshop for an improved Greenhouse Gas Inventory in the Agriculture and Land Use (ALU) using the ALU software was held from 24-28 July 2017;
- Institutional strengthening/capacity building workshop for Undertaking Mitigation Analysis for Low-Carbon Development Planning was held from 01-02 August 2017;
- Capacity building workshop on improving GHG Inventory in the energy, transport, Industrial Processes and Product Use (IPPU), and waste sectors was held from 11-13 September 2017;

(iii) The following awareness/sensitisation materials have also been developed/procured under the Third National Communication for the Republic of Mauritius:

- 3-D models (GHG, Sea level Rise and Eco House);
- 2 mini model (Solar Water Heater and PV Panel);
- 25 flex boards; and
- 8 roller banners.
(iv) An assistance of EUR 2 million was obtained from the Government of France to implement the Mauritius NDC and Action Plan. In this instance, a “Protocole d’Entente” was signed by the Mauritian Ambassador to France during the Paris Climate Summit held on 12 December 2017 in Paris;

(v) Inception workshop for the implementation of the following grant projects were held:
a. Preparation of Biennial Update Report (BUR) – USD 352,000 financed by the Global Environment Facility (GEF); and
b. Nationally Appropriate Mitigation Actions (NAMAs) for Low Carbon Island Development Strategy for Mauritius - USD 1.6 million financed by GEF.

(vi) Resource mobilisation: Project proposals under consideration at the level of funding agencies.
  o Proposal on Readiness and Preparatory Support Programme towards a climate resilient and low emission socio-economic development trajectory for the Republic of Mauritius: Green Climate Fund (GCF) – USD 300,000;
  o Submission of first draft for Phase I of the National Adaptation Plans (NAP) to the GCF on 31 October 2017 (USD 2 million);
  o Assistance of around USD 325,000 from Climate Technology Centre Network (CTCN) to assess the Port’s vulnerability with a view to enhance the port’s resilience to the adverse impacts of climate;
  o Proposal for formulation of Fourth National Communication: GEF/UNEP USD 500,000;
  o Submission of first draft for Phase II of the National Adaptation Plans (NAP) to the GCF on 31 January 2018 (USD 1 million); and
  o Proposal on Capacity Building on Climate Change submitted to GCF on 31 January 2018 (USD 315,000).

(vii) Achievements in collaboration with stakeholders
  • Development and implementation of an early warning system for storm surges for Mauritius, Rodrigues and Agalega with the support of the Adaptation Fund;
  • Construction of a Refuge Centre in the village of Quatre Soeurs. The Refuge Centre will serve as an emergency escape haven from frequent flooding and demonstrate infrastructure alternatives to minimise flooding risk in the future. The building will be used as a Multi-purpose complex under normal circumstances;
  • 325 000 USD has been secured from the Green Climate Fund for Climate Change Vulnerability and Adaptation Study for the Port of Port Louis in view
of enhancing the resilience of the port to the adverse impacts of climate change;

- Coastal protection rehabilitation works have been undertaken to increase the resilience of the coastal zone. For the year 2017/2018, works over 0.57 km at the following 4 sites have started: Baie du Tombeau, Case Noyale, Grand Baie Sunset Boulevard and Residence La Chaux; and

- Construction of a rock revetment with parapet wall have started over a length of 430 metres at Riviere des Galets to protect the 350 exposed coastal communities living on the sea frontage from flooding due to overtopping during storm surges and bad weather conditions. Coastal Rehabilitation Works will also be implemented at Mon Choisy Public Beach to address the beach erosion. The project will comprise of construction of an artificial reef using pre-cast reef units, beach refurbishment over an extent of 450 metres, and planting of sand binding plants.

(viii) 23rd Conference of Parties to the United Nations Convention on Climate Change (COP23)

The 23rd Session of the Conference of the Parties (COP23) to the United Nations Convention on Climate Change (UNFCCC) took place in Bonn, Germany, from 6 to 17 November 2017. Negotiations at the Session attempted to make significant progress on developing the Paris Agreement Work Programme, also referred to as the Paris “rulebook”. The discussions were overseen by the Ad-hoc Working Group on the Paris Agreement (APA) to cover several areas, including setting the framework of country pledges (known as Nationally Determined Contributions), provisions of long term finance, adaptation measures, loss and damage, transparent reporting of actions, facilitative dialogue (Talanoa dialogue) and monitoring of compliance to the Paris Agreement.

COP23 led to an agreement to form additional stocktaking sessions in 2018 and 2019 in order to review progress made on reducing emissions as well as prepare two assessments of climate finance to be published in 2018 and 2020. These submissions would then be pulled together in a synthesis report on pre-2020 ambition, ahead of COP 24, which would take place in December 2018.

(ix) Mauritius-EU Political Dialogue

The 5th Mauritius-EU Political dialogue was held on Tuesday 30 May 2017 under the chair of the Honourable Minister of Foreign Affairs, Regional Integration and International Trade. Regarding climate change issues, focus was laid on the implementation of Mauritius Intended Nationally Determined Contribution (INDC) and areas where the European Union can assist namely in terms of capacity building as well as financial and technical support. It was also agreed to hold policy dialogue on climate change at a more technical level.
The first Technical Policy Dialogue was held on Wednesday 28 March 2018 under the chair of the Supervising Officer of the Ministry. During the meeting, stakeholders were invited to submit project concept notes in line with the NDC policy orientation, including proposed actions together with timeframe and indicators in order to seek possible support from the EU.

The second Technical Policy Dialogue was held on Friday 26 May 2018 under the chair of the Permanent Secretary of the Ministry. During the meeting, project proposals which were submitted by stakeholders to seek funding possibilities from the EU and a list of indicators to monitor progress of implementation of the NDC were discussed.

On Thursday 7 June 2018, the 6th High Level Political Dialogue, held under the chair of the Honourable Minister of Foreign Affairs, Regional Integration and International Trade. Discussions, was focused on the position of the Republic Mauritius in the COP24, the preparation of the Climate Change Bill and the implementation of the Mauritius Nationally Determined Contribution (NDC).

(x) Launching of the following 3 documents under the project “Migration, Environment and Climate Change: Evidence for Policy” jointly by the International Organisation for Migration on 24 May 2018:
   a. “Assessing the Evidence: Migration, Environment and Climate Change in Mauritius”;
   b. “Assessing the Climate Change – Migration Nexus through the Lens of Migrants: The Case of the Republic of Mauritius”; and
   c. Policy Paper and an action plan on Migration, Environment and Climate Change.

3.0 Challenges

- Climate change is the defining challenge of our time, yet it is still accelerating faster than our efforts to address it. Atmospheric levels of carbon dioxide are higher than they have been for 800,000 years, and they are increasing. Similarly, are the catastrophic effects of our warming planet including extreme weather events, droughts, flash floods, ocean acidification and sea level rise. Observations are unanimously showing that our planet is warming. 17 of the 18 warmest years on record have occurred in the twenty-first century. The past three years were the hottest since records began.

- Climate change and its adverse impacts are among the most serious hurdles in the achievement of Sustainable Development Goals. Climate sensitive sectors on which the socio economy depends are likely to be severely impacted. As a result, mainstreaming climate change in key sectors and mobilisation of resources to enhance resilience will be a serious challenge.
4.0 Strategic Direction

To enhance climate change adaptation and mitigation policies.

- In order to prioritise adaptation actions, the National Adaptation Plan (NAP (I) and (II)) and the Adapt’ Action Programme are being implemented. In this respect, project concept notes to be submitted to funding institutions would be formulated for key sectors identified in the Mauritius Nationally Determined Contribution (NDC). Key sectors identified include tourism and coastal zone, infrastructure (bridges and drains), disaster risk reduction, agriculture and fisheries.

- In line with the NDC target of reducing GHG emission by 30% by 2030, several mitigation projects will be implemented. A nationally appropriate mitigation and action plan will be developed towards a low carbon economy.
1.0 Roles and Functions of the Division

The main duties of the Division are as follows:

(i) Ensure the effective implementation of environmental projects;

(ii) Implement/coordinate national, regional and international environmental projects such as those funded by development partners/donors such as UNDP/GEF, UNE and regional organisations; and

(iii) Coordinate the inputs of the technical Divisions within the Department of Environment for budget measures and Government Programme.

2.0 Major Achievements for Period July 2017 to June 2018

2.1 The National Environment Commission (NEC)

The 21st meeting of the National Environment Commission (NEC) was held on Thursday 03 May 2018, under the chairmanship of the Honourable Pravind Jugnauth, Prime Minister. The National Environment Commission, set up under Section 5 of the Environment Protection Act is the highest level of coordination between public departments, local authorities, and other government organisations to discuss and decide on national environmental policies and strategies.

The Commission met after 13 years, and was revived as part of the commitment taken by the Government in its programme 2015-2019 in order to create better synergies among stakeholders to address environmental concerns, climate change and natural disaster issues.

Topics discussed during this meeting were mainly focused on Disaster Risk Reduction in the Capital City, National Solid Waste Management Programme, Multilateral Environmental Agreements Coordinating Committee, Coastal Protection, Landscaping and Infrastructural Works, Implementation of the Climate Change Adaptation Policy Framework and Nationally Determined Contributions as well as Sustainable Development.

2.2 Implementation of the Global Fuel Economy Initiative (GFEI)

Reducing vehicular emissions and moving towards a more sustainable land transport sector has become sine qua non. In this context, the United Nations Environment (UNE) and its partners launched the Global Fuel Economy Initiative (GFEI) to assist countries to develop policies that encourage fuel economy (reduction in fuel consumption and carbon dioxide CO₂) improvement and vehicle efficiency.
The initiative aims to facilitate large reductions of greenhouse gas (GHG) emissions and fuel use through improvements in automotive fuel economy of at least 50% worldwide by 2050. Cutting global average automotive fuel consumption by 50% would reduce emissions of CO₂ by over 1 gigatonne (Gt) a year by 2025 and over 2 Gt by 2050, and result in savings in annual oil import bills worth over USD 300 billion in 2025 and 600 billion in 2050 (based on an oil price of USD 100/bbl).

2.2 Tasks undertaken under Phase 2

(i) Vehicle inventories for Light and Heavy Duty Vehicles for Years 2014 and 2015 have been done. This allows for an analysis of types of vehicles in use in Mauritius and provides a basis for policy guidance to improve vehicle fleet. In order to improve data processing, a Data Entry Tool was developed and upgraded to include two additional fields, namely fuel consumption and CO₂ emissions.

(ii) The Environment Protection (Display of Fuel Consumption and CO₂ Emission Label) Regulations 2018 have been prepared. The promulgation of these regulations will allow consumers to make an informed choice about the most efficient motor car to purchase.

(iii) Recommendations have been made to explore the possibility of introducing ultra-low sulphur fuels (i.e. diesel and petrol with 10 ppm sulphur) in Mauritius. Sulphur content in fuels determines the types of technologies that can be used to reduce the release of particulate matter, nitrogen oxides, hydrocarbons and carbon monoxide amongst others.

(iv) The Government of Mauritius has put in place several fiscal instruments, such as reduced excise duty and rebate on motor vehicle licence and registration fees so as to boost up the purchase of fuel-efficient vehicles, particularly hybrid and electric vehicles that would lead to significant reduction in fuel consumption and greenhouse gas (GHG) emissions from the transport sector. However, compared to the overall fleet of vehicles, the market share of hybrid and electric vehicles is still very low. As at July 2018, there were 8410 hybrid and 65 electric vehicles registered. In this context, this Ministry commissioned a socio-economic study to assess the perceptions and willingness of the public, businesses, as well as Government bodies to integrate hybrid and electric vehicles in their fleet.

(v) A review of fiscal adjustments, fiscal and non-fiscal incentives to promote more energy-efficient and less polluting vehicles have been carried out.

(vi) An analysis of traffic management measures has been carried and six traffic congestion alleviating measures were scoped down namely (a) traffic control; (b) priority schemes for public transport; (c) parking and park and ride scheme; (d) road pricing; (e) non-motorised transport; and (vi) land use planning and transport.

(vii) About 200,000 pamphlets on eco-driving and its advantages have been given to oil companies for distribution to drivers.
(viii) A two-day sub-regional workshop was held in October 2017 with a view to support the regional dissemination of the GFEI findings in Mauritius and within the Southern Africa sub-region. The workshop was facilitated by resource persons delegated by United Nations Environment, as well as from regional blocks such as the Southern African Development Community (SADC), the East African Community (EAC) and the Economic Community of West African States (ECOWAS). There were around 80 participants in the workshop, including 32 international delegates and experts, and a further 50 participants from local stakeholder ministries and parastatal bodies, as well as academia. The workshop provided a platform through which GFEI participating countries in the Southern Africa region shared experiences and lessons-learnt and came up with a regional fuel economy roadmap.

2.3 UNDP/GEF project “Mainstreaming Biodiversity into the Management of the Coastal Zone in the Republic of Mauritius”

The objective of this project is to preserve biodiversity in the coastal zones of Mauritius. A Technical Committee has been set up to look into the following activities:

(i) Updating of Environmentally Sensitive Areas data, maps and policies;

(iii) Analytical review of coastal and marine plans and planning processes to identify progress made and gaps to be filled; and

(iv) Development and implementation of ICZM plans for Black River district taking a ‘ridge-to-reef’ approach.

The Division has been assigned to coordinate the implementation of the activities.
Policy and Planning Division

1.0 Roles and Functions of the Division

The main duties of the division are:

a) To formulate and review policies on key environmental issues;

b) To coordinate and follow up on the implementation of the conventions and protocols under the Multilateral Environmental Agreements which the Republic of Mauritius has signed;

c) To finalise and publish guidelines related to environmental impact assessment for environmental planning;

d) To implement the Environment Protection (Banning of Plastic Bags) Regulations 2015; and

e) To provide inputs on bilateral cooperation.

2.0 Major Achievements for Period July 2017 to June 2018

a) The Multilateral Environmental Agreements Coordinating Committee (MEACC)

The Multilateral Environmental Agreements Coordinating Committee (MEACC), under the chairmanship of the Minister, has been set up under Section 12A of the Environment Protection Act. The MEACC is responsible to coordinate the implementation of MEAs by the relevant Ministries, Departments, public bodies and organisations.

One of the main function of the Coordinating Committee is to take cognisance of the outcome of meetings on MEAs at regional or international level and determine the measures and actions to be taken at national level. It is to be highlighted that though the MEACC was set up since 2008, it is only under this Government that the meetings were held. The first MEACC was held on 16 November 2015 and the second meeting was held in 19 September 2017.

b) Formulation and review of policies on key environmental issues

- Budget measures were prepared for the promotion of alternatives to disposable polystyrene containers.
- Budget measures were taken to impose a Rs. 2 levy on plastic containers.

c) Environmental Guidelines Prepared as per Part IV of EPA 2002

- 17 Non listed activities updated, namely:
  - Poultry rearing below 5000 heads
  - Assembly of batteries
  - Cold rooms and refrigeration Plants
  - Bus depot of less than 50 buses
  - Bakery
- Demolition of buildings
- Multi-purpose hall, including wedding hall
- Inland hotel
- Food processing for small and medium enterprises
- Food Canning Industry
- Traffic Centre
- Nautical Centre
- Block making plant manufacturing up to 10,000 blocks per day
- Undersea walk
- Livestock rearing including cattle, goat and sheep (up to 20 cattle heads, 50 goat heads and 50 sheep heads)
- Stone crushing plant set up temporarily for the purpose of a project
- Asphalt plant set up temporarily for the purpose of a project by a public department.

- General Guidelines on content on Environmental Impact Assessment prepared
- General Guidelines on content on Preliminary Environmental Report prepared

d) Implement the Environment Protection (Banning of Plastic Bags) Regulations 2015
   - 89 importers of exempted plastic bags registered;
   - 7 clearances were granted for the import of biodegradable and compostable plastic;
   - 1,777,400 biodegradable/compostable plastic bags were imported;
   - Around 33.8 biodegradable/compostable plastic bags were manufactured during period July 2017-June 2018.

e) Inputs on Bilateral Cooperation
   Views and inputs were provided to the Secretary of Foreign Affairs on bilateral cooperation with several countries.

f) Development of a Shared Environment Information System (SEIS) Project for an Indicator Reporting Information System (IRIS)

   - A Small Scale Funding Project financed by the European Commission through the United Nations Environment (UNE) to the tune of USD 16000. The duration of the project is from November 2016 to June 2019. The aim is to build the capacity of countries including Mauritius for data and knowledge sharing by Ministries and other relevant agencies at national level to support state of environment reporting (SoE) and other reporting processes, as well as develop and implement a Shared Environmental Information System (SEIS) for decision-making. A gap analysis report was prepared and it was proposed to have capacity building workshop on prioritisation and collection of environmental indicators and migration on GOC Platform. The project is ongoing.
3.0 Strategic Direction

To devise and implement appropriate legal and policy framework regarding environment related issues such as solid and hazardous waste management (plastic pollution control).

3.1 Amendment of Environment Protection Act

- Amendment of the EPA to provide for a definition for “internationally accredited/recognised laboratories” so that evidences from these bodies are accepted in Court.

- Provisions to be made to impose a fixed penalty for offences by traders at points of sale.

3.2 Review of Regulations

- The Environment Protection (Banning of Plastic Bags) Regulations 2015 needs to be reviewed taking into consideration the loopholes and barriers to implementation that have been identified.

- Review of the Third Schedule of the above Regulations to provide for standard specifications for biodegradable and compostable plastics so as to avoid confusion and facilitate compliance and enforcement.

- Under the Environment Protection Act 2002, to set out appropriate standards to clearly demarcate between biodegradable and non-biodegradable plastic containers as an excise duty of Rs. 2 per unit on non-biodegradable containers namely take-aways, bowls, plates, cups and trays will be introduced as from 1 February 2019.

3.3 Development of guidelines for Environment Impact Assessment (EIA)/Preliminary Environment Report (PER) and delisted activities under the BFA

- Review of existing environmental guidelines for 14 additional delisted activities
- Preparation of sectoral guidelines for listed undertaking requiring a PER
- Preparation of sectoral guidelines for listed undertaking requiring an EIA
1.0 Role and Functions of the Division

i. To ensure timely processing of EIA and PER applications in line with the provisions under Part IV of the Environment Protection Act.

ii. To ensure that potential environmental impacts foreseen at the project inception stage are adequately addressed and mitigated at the project design and implementation stage.

The duties of the Division are as follows:

- Processing of EIA and PER applications;
- Follow-up on appeal cases at the Environment and Land Use Appeal Tribunal and Supreme Court cases;
- Processing of Morcellement Board applications;
- Processing of Land Conversion Permit applications;
- Processing of requests for views from the Economic Development Board (EDB) (PDS and Smart Cities), Local Authorities and other Authorities;
- Processing of Requests from proponents; and
- Attending Committees and Board Meetings.

2.0 Major Achievements for Period July 2017 to June 2018

For the period July 2017 to June 2018, the Environmental Assessment Division has processed a total of 58 EIA and 37 PER applications. These are tabulated below:

<table>
<thead>
<tr>
<th>EIA APPLICATIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of new applications received</td>
<td>58</td>
</tr>
<tr>
<td>No. of EIA licences issued</td>
<td>52</td>
</tr>
<tr>
<td>No. of exempt undertaking</td>
<td>11</td>
</tr>
<tr>
<td>No. of applications rejected</td>
<td>05</td>
</tr>
<tr>
<td>No. of applications set aside</td>
<td>-</td>
</tr>
<tr>
<td>No. of amendments /requests considered</td>
<td>05</td>
</tr>
<tr>
<td>No. of EIA applications under process as at date</td>
<td>32</td>
</tr>
</tbody>
</table>

*Including 6 applications received from July 2018*
Table 2: PER Applications (from July 2017 to June 2018)

<table>
<thead>
<tr>
<th>PER APPLICATIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of new applications received</td>
<td>37</td>
</tr>
<tr>
<td>No. of PER approval granted</td>
<td>17</td>
</tr>
<tr>
<td>No. of applications rejected</td>
<td>03</td>
</tr>
<tr>
<td>No. of applications set aside</td>
<td>-</td>
</tr>
<tr>
<td>No. of amendments /requests considered</td>
<td>02</td>
</tr>
<tr>
<td>No. of PER applications under process as at date (Including 7 applications received from July 2018)</td>
<td>30</td>
</tr>
</tbody>
</table>

Major development projects for which EIA licences were issued included hotel construction and renovation, morcellements, distilleries, clinics and shipyard. Moreover, following the decision of Government to implement Property Development Scheme and Smart City Projects and develop offshore aquaculture as a new economic pillar, EIA licences have been issued for the following major projects, just to name a few:

a) Proposed Smart City at Pailles by Yihai Investment Ltd
b) Proposed setting up of an oyster farm by Mascareignas Oyster (Mauritius) Ltd
c) Proposed Fish Farming at Sea in declared fish farming zones at Bambous 1 and Bambous 2 by Growfish International (Mauritius) Ltd
d) Extension of C. Palmar Mauritius Hotel at Palmar by Lagonde Reve Ltd.
e) 5-star hotel development at Trou aux Biches by Lite Blue Ltd
f) Proposed renovation and extension of Preskil Beach Resort at Pointe Jerome in the district of Grand Port by Southern Cross Tourism Company Ltd
g) Proposed extension of the existing 4-star Club Med Hotel at Pointe aux Cannoniers which will comprise the construction of an additional 108 bedrooms by La Compagnie des Villages de Vacances de l’Isle de France Limitee (COVIFRA)

The Ministry also assessed EIA applications for government projects especially for coastal protection, landscaping and infrastructural works for a number of sites affected by beach erosion, desalination plants in Rodrigues as well as for road infrastructure projects being implemented by the Road Development Authority. The EIA for the laying of the MARS Submarine Fibre Optic Cable between Mauritius and Rodrigues by Mauritius Telecoms Ltd was also assessed and approved.

For the period of July 2017 to June 2018, there has been a historic rise in processing of EIA applications whereby the number of EIA applications processed were 57, out of which 52 EIA licences were issued, as compared to previous years. For instance, during
The period of July 2015 to June 2016, the number of EIA applications processed were 23 and 23 EIA licences were issued. With regards to the period of July 2016 to June 2017, the number of EIA applications processed were 30, out of which 29 EIA licences were issued.

![Figure 1: EIA Applications Processed and Licences Issued](image)

The increasing demand for EIA licences can be attributed to the promotion of a conducive business environment and a positive investment climate by Government, confirming the country’s position as a well-established business destination for investors. It goes without saying that the EIA mechanism has been instrumental not only in boosting economic development by attracting Foreign Direct Investment, but also in creating employment while concurrently ensuring the promotion of sustainable development.

As regards PER applications, 17 PER Approvals were issued between July 2017 to June 2018. Due consideration has been given to 7 requests from proponents with respect to the amendments of projects following the issue of EIA licences and PER approvals.

**Complexities of projects**

Given our limited land resources, much prime lands have already been developed and, consequently, new development projects are now being proposed on difficult sites and environmentally sensitive areas such as slopy land, islets and wetlands. Moreover, the nature and complexity of development projects have also changed and the negative
impacts of projects are becoming more and more intricate, larger in scale and quickly reaching their potential consequences compared to a few years ago.

Moreover, the processing of EIA applications is an open consultative mechanism, involving governmental and parastatal bodies as well as the public at large. Since projects are being undertaken in more sensitive areas, there is sometimes a public outcry for certain development projects. In addition to submitting public comments during the processing of EIA applications, any person aggrieved by the decision of the Minister and who is able to show that the decision is likely to cause him undue prejudice may appeal against the decision of the Minister at the Environment and Land Use Appeal Tribunal, as per Part VIII of the Environment Protection Act.

In this context, 4 appeal cases regarding EIA licences issued for the period June 2017 to July 2018 have been lodged at the Environment and Land Use Appeal Tribunal. This demonstrates that in general EIA licences are fairly issued in line with sustainable development and good governance principles. The Division attended to 12 ongoing appeal cases at the Environment Appeal Tribunal/Environment and Land Use Appeal Tribunal and cases at the level of Supreme Court.

**Projects considered at Fast Track Committee**

It is to be noted that several large investment projects warranting an EIA licence or a PER Approval are being facilitated at the level of the Fast Track Committee of Investment Projects, which is chaired by the Honourable Prime Minister. According to the Economic Development Board, for the period 2017 – 2018, 36 such investment projects were considered under the Fast Track Committee.
Implementation of Projects considered at Fast Track Committee

Although the number of EIA licences issued has kept on increasing from 2015 to 2018, implementation of these projects has not followed suit. As shown in Figure 2, almost 50% of these projects had not yet started as at mid-January 2019.

Furthermore, it is to be noted that between 2015 and 2018, out of the 138 projects where EIA licences were issued, 46 were considered at the level of the Fast Track Committee. However, despite being considered by this Committee, nearly 70% of these projects with an investment value of about MUR 53.7 billion have not yet started. A summary is portrayed in the table below.

Table 1: Approved EIA Projects for Period 2015 to 2018 and considered at the Fast Track Committee, for which implementation works have not yet started

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of EIA Projects</th>
<th>Projects not yet started as at January 2019</th>
<th>Investment value (Million MUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. of projects</td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>4</td>
<td>2</td>
<td>7,900</td>
</tr>
<tr>
<td>2016</td>
<td>6</td>
<td>2</td>
<td>3,964</td>
</tr>
<tr>
<td>2017</td>
<td>13</td>
<td>9*1</td>
<td>7,508*1</td>
</tr>
<tr>
<td>2018</td>
<td>23</td>
<td>19*2</td>
<td>34,392*2</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
<td>32 (69.6%)</td>
<td>53,764</td>
</tr>
</tbody>
</table>

*1: For year 2017, investment values obtained for 7 projects out of 9. Investment value still awaited for 2 projects.
*2: For year 2018, investment values obtained for 18 projects out of 19. Investment value still awaited for 1 project.

Note: Investment values have been obtained from the Economic Development Board (EDB)
Other applications and clearances
The Division has also processed 550 Morcellement Board applications, 500 applications for Land Conversion Permits, 170 environmental clearances, including applications for PDS Certificates and Smart Cities (Letter of Comfort) and attended 145 meetings and committees.

EIA E-Licensing Project
This year, the EIA mechanism will be further consolidated with the operationalisation of the Mauritius e-Licensing Project. The coming into operation of the e-licensing system will not only enhance a positive business environment but will also contribute to maintain a high standard of environmental protection in our quest for sustainable development. Currently, the timeframe for processing an EIA Application is around 99 days, while that for a PER is around 40 days. Through the e-Licensing Project, the aim is to reduce processing time for both EIA and PER. This modern system will enable a more efficient and rapid procedure and curtail delays in the implementation of development projects by eliminating administrative barriers.

Henceforth, EIA and PER procedures will be paperless as all requests will be submitted, processed and approved online. A built-in audit trail and associated electronic payment mechanism will also be included so as to create a conducive business climate. Applicants will now be able to request for an EIA Licence or a PER Approval at anytime and anywhere in the world. In so doing, the system will facilitate business and investment. The e-licensing platform will also substantially improve interaction between public sector agencies for the sharing of EIA and PER-related information. In addition to allowing the seamless flow of information across public sector bodies, the platform will also enhance the transparency of the licensing system in line with good governance principles.
1.0 Roles and Functions of the Division

With a view to reinforce monitoring of undertakings at the level of the Ministry, the Department of Environment was re-engineered and an EIA/PER Monitoring Division was set up in March 2013. As such, the main objective of the Division is to ensure compliance to the conditions imposed in EIA Licences and PER Approvals so as to avoid any potential adverse impacts during the whole life-cycle of a particular project.

The Division is also responsible for the implementation of two conventions namely: (1) The Stockholm Convention on Persistent Organic Pollutants (POPs) and (2) the Minamata Convention on Mercury. The main duties of the Division with regards to EIA/PER monitoring are listed hereunder:

- To conduct EIA/PER monitoring exercises so as to determine compliance with consent conditions;
- To process Environmental Monitoring Plan after an EIA Licence has been issued;
- To recommend appropriate remedial and enforcement measures to the EIA/PER Monitoring Committee in case of non-compliance to consent conditions;
- To prepare and update a database on projects for which an EIA Licence/PER Approval has been issued;
- To prepare and submit bi-annual monitoring reports to the Minister; and
- To service the EIA/PER Monitoring Committee (Section 28A under the Environment Protection Act).

2.0 Major Achievements for Period July 2017 to June 2018

2.1 EIA/PER monitoring

Pursuant to per Section 28A(2)(e) of the Environmental Protection Act, the EIA/PER Monitoring Committee has prepared two bi-annual reports, which summarises monitoring of EIA and PER projects for the period July to December 2017 and January to June 2018. The main findings of the report are listed in Table 4 below:

Table 4: Summary of monitoring carried out for the period July 2017 to June 2018

<table>
<thead>
<tr>
<th>EIA Projects</th>
<th>PER Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Total</td>
</tr>
<tr>
<td>No. of EIA undertakings monitored</td>
<td>202</td>
</tr>
<tr>
<td>No. of site monitoring</td>
<td>60</td>
</tr>
<tr>
<td>No. of Environmental Monitoring Plans approved</td>
<td>36</td>
</tr>
<tr>
<td>No. of non-compliances observed</td>
<td>143</td>
</tr>
<tr>
<td>No. of non-compliances rectified</td>
<td>46</td>
</tr>
<tr>
<td>No. of notices issued</td>
<td>0</td>
</tr>
<tr>
<td>No. of projects at prosecution level</td>
<td>4</td>
</tr>
</tbody>
</table>
2.1 Minamata Convention on Mercury

(i) 1st Conference of Parties to the Minamata Convention on Mercury (COP1)

The COP1 to the Minamata Convention on Mercury began on Sunday, 24 September 2017 in Geneva, Switzerland. The Minamata Convention was adopted on 10 October 2013 and entered into force on 16 August 2017.

Major highlights of the Minamata Convention include a ban on new mercury mines, the phase-out of existing ones, the phase out and phase down of mercury use in a number of products and processes, control measures on emissions to air and on releases to land and water, and the regulation of the informal sector of artisanal and small-scale gold mining. The Convention also addresses interim storage of mercury and its disposal once it becomes waste, sites contaminated by mercury as well as health issues.

COP1 considered a number of matters related to reporting, effectiveness of evaluation, the financial mechanism, arrangements for a permanent secretariat, compliance and guidance, and guidelines related to technical aspects of the Convention.

(ii) Mercury Initial Assessment (MIA) Project

- Ratification of the Minamata Convention on Mercury by the Republic of Mauritius on 21 September 2017
- Public Awareness clips on dangers of mercury and existence of alternatives in the household sector in public transport running for the period Dec 2017 - Feb 2018.
- Awareness raising workshop for targeted group (NGOs) on 07 June 2018.
- Validation Workshop held to validate the MIA Report on 08 June 2018.
- A Mercury Initial Assessment (MIA) Report, which includes a detailed Mercury Inventory at National Level, a Legal Gap Analysis and an Action Plan, has been prepared and completed in June 2018.
- Sensitisation posters have been prepared and distributed to all dentists registered with the Dental Council and health institutions.

2.2 Stockholm Convention on Persistent Organic Pollutants (POPs)

(i) 8th Conference of Parties to the Convention on Persistent Organic Pollutants (COP8)

The COP8 to the Stockholm Convention on Persistent Organic Pollutants was held in Geneva, 24 April–5 May 2017.

At its 8th meeting in May 2017 and by its decisions SC-8/10; SC-8/11; SC-8/12, the COP to the Stockholm Convention on Persistent Organic Pollutants (POPs) adopted amendments to Annexes A and C to the Convention to list the following chemicals namely, decabromodiphenyl ether, short-chain chlorinated paraffins and hexachlorobutadiene.

(ii) Ratification of POPs

In accordance with paragraph 4 of Article 25 of the Convention, the amendments to the Stockholm Convention will enter into force for Mauritius only on the ninetieth day after
the date of deposit with the depository of its instrument of Ratification, Acceptance, Approval or Accession with respect to them.

- Ratification of 4 new POPS on 28 November 2017. These POPs are pesticides and industrial chemicals which may severely affect human health. Hence the Dangerous Chemical Control Board prohibits the importation of these chemicals.

(iii) Project entitled ‘Continuing Regional Support for the POPs Global Monitoring Plan under Stockholm Convention in the African Region, Phase II’

The following activities have been undertaken under this project:
- Passive ambient air sampling, which has started in January 2017, and ongoing for a period of two years;
- Capacity Building of staff at National Environmental Laboratory, Government Analysts Division and the Mauritius Sugarcane Industry Research Institute on extraction and analysis of POPs in different media in September 2017;
- Human milk sampling by the Ministry of Health and Quality of Life completed in April 2018;
- Shipment of passive air filters and Human milk samples to expert foreign laboratories for mirror analysis in April 2018; and
- Procurement exercise initiated in May 2018 for the purchase of standards, reagents and consumables to be used for extraction and analysis of POPs in ambient air and human milk at national level initiated in May 2018.
Environmental Law and Prosecution Division

1.0 Role and Functions of the Division

- Ensure protection of the environment by reviewing/amending the Environmental Protection Act 2002 and formulating new environmental standards/updating existing environmental standards;

- Ensure compliance with the Environment Protection Act 2002 through prosecution of environmental offences;

- Encourage collection of PET bottles for recycling through the PET bottles Permitting System and working in collaboration with stakeholders to increase collection of used PET bottles;

- Provide inputs to the different Trade Agreements at the level of the Ministry of Foreign Affairs and International Trade namely for the TISA (Trade in Services Agreement Negotiations), COMESA-EAC-SADC Tripartite, TOAM (Trade Obstacle Alert Mechanism) and the Environmental Goods Agreement (EGA);

- Our inputs are also provided at the level of the Mauritius Standards Bureau aiming at developing Mauritian standards in line with the ISO standards;

- Provide comments on Affidavits to SLO in matters which are at Supreme Court; and

- Prepare statement of case in connection with appeal cases before the Environment Land Use and Appeal Tribunal.

2.0 Major Achievements for Period July 2017 to June 2018

Table 5: Achievements of the Division

<table>
<thead>
<tr>
<th>Description</th>
<th>Number of Cases Lodged</th>
<th>Fines (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illegal supply of banned plastic bags</td>
<td>41</td>
<td>50 400</td>
</tr>
<tr>
<td>Eyesore Abatement Notice</td>
<td>8</td>
<td>68 000</td>
</tr>
<tr>
<td>Noise</td>
<td>8</td>
<td>13 000</td>
</tr>
<tr>
<td>Undertaking without EIA/PER</td>
<td>4</td>
<td>52 000</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>3000</td>
</tr>
<tr>
<td>Total</td>
<td>79</td>
<td>167 900</td>
</tr>
</tbody>
</table>
3.1 Verification of Plastic Bags at Port and Airport

In order to enforce the Environment Protection (Banning of Plastic Bags) Regulations 2015, importation of bags are controlled at the port and airport.

As per bill entry of imported and upon verification by customs, any consignment found to contain plastic bag(s) as per the regulation, the attention of the Department of Environment is drawn for a verification and clearance.

The broker of the importer is informed and the latter ensures that the importer make a formal request from the Department of Environment. Upon verification, if the bags are found to be legally in order, they are released. In case the bag(s) are not in order, same are secured and sealed in presence of custom, broker and importer.

The importer gives a statement of undertaking for recycling at approved recyclers of his or her choice and in case the latter fails to do so when requested, the latter will be liable for prosecution.

Since July 2017 to June 2018, 139,746 non-authorised bags were secured and 1,790,200 biodegradable bags were imported in Mauritius.

4.0 Strategic Direction

- Amendments to the EPA are being finalised.
- The Division will continue to review the various standards and regulations in force, have appropriate stakeholder consultation and effect the necessary gazetting as and when required.
- Carry out enquiries as and when cases of environmental offences are referred to the Division
- Conduct prosecution at District Courts following advice of the Office of the Director of Public Prosecutions
- Monitoring collection of PET Bottles for recycling
- Provide inputs to International Trade Agreements under the Ministry of Foreign Affairs, Regional Integration and International Trade
- Assist the Mauritius Standards Bureau in the development of Mauritian Standards.
1.0 Role and Functions of the Division

- Implement the Integrated Coastal Zone Management Framework;
- Conduct and recommend studies on beach erosion and propose appropriate measures for its control;
- Propose oil spill contingency planning and sensitivity mapping;
- Coordinate monitoring of coastal water quality and coastal resources including wetlands;
- Provide views and comments with regard to development in the coastal zone;
- Coordinate regional and international projects and MEAs in the coastal zone;
- Act as secretariat to the ICZM Committee; and
- Address other cognate ICZM issues.

2.0 Major Achievements for Period July 2017 to June 2018

The coastal zone of Mauritius is a key resource. Economically, the coastal zone is by far the most valuable segment of the Mauritian territory. In this zone, billions of rupees are being invested in the form of hotels, infrastructure, water sport facilities, biodiversity conservation, and coastal protection. Intense pressure from sea and land based activities (construction, sewage disposal, industry and agriculture) is degrading this environment and threatening to prevent its full economic potential from being realised.

The main damaging effects are: beach erosion, poor water quality in the lagoon due to land-based sources of pollution, coral degradation, and loss of biological diversity in the sea and on the coast. The situation is exacerbated by sea level rise and storm surges and thus putting at risk the coastal inhabitants and their properties as well as the coastal resources. Addressing environmental problems which affect the coastal zone is therefore of a very high priority.

In order to enhance the natural beauty and the attractiveness of the coastal zone, the Ministry is implementing a coastal protection rehabilitation works comprising of ‘hard’, ‘semi-hard’ and ‘soft’ measures such as rock revetment, gravel nourishment, use of geobags, and sand nourishment have been completed at several critical sites, so as to increase the resilience of our beaches and to address immediate concerns such as damage to coastal infrastructure and security of beach users.

For the year 2017/2018, coastal protection works over 0.57 km at the following 4 sites have started: Baie du Tombeau, Case Noyale, Grand Baie Sunset Boulevard and Residence La Chaux.
3.0 Trends and Challenges

- The key strengths on which the Ministry should build upon to achieve its strategic objective are its capacity to carry out these types of projects and trained personnel in coastal protection.

- The difficulties that may hamper service delivery are long tendering procedures and time taken for public comments.

- The opportunities to improve service delivery are proactiveness in carrying out consultation meetings with relevant stakeholders and availability of relevant data and information.

- The threats including external and challenges which may be faced by the Ministry/Department in implementing its strategies is delays in receiving clearances from relevant stakeholders, and natural disasters.
1.0 Role and Functions of the Division

- Conduct sensitisation campaigns to disseminate information through talks, radio/tv programmes, exhibitions, film shows, and competitions for various target groups;

- Develop resource materials, such as posters, pamphlets, billboards, booklets, leaflets, and flyers to disseminate environmental information; and

- Organise the celebration of major international environment events, namely Earth Day on 22 April, World Environment Day on 5th June, and Clean up the World during the third weekend of September.

3.0 Major Achievements for Period July 2017 to June 2018

- Some 168 campaigns have been held as follows:-

<table>
<thead>
<tr>
<th>Table 6: Statistics of Sensitisation Campaigns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitisation Campaigns</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>1 Activities organised to mark major</td>
</tr>
<tr>
<td>International Environmental Events</td>
</tr>
<tr>
<td>- Clean up the World 2017</td>
</tr>
<tr>
<td>- Earth Day 2018</td>
</tr>
<tr>
<td>- World Environment Day 2018</td>
</tr>
<tr>
<td>2 Awareness Raising Activities</td>
</tr>
<tr>
<td>- General awareness raising activities with</td>
</tr>
<tr>
<td>different target groups</td>
</tr>
<tr>
<td>- Radio Talks</td>
</tr>
<tr>
<td>- TV Programme</td>
</tr>
<tr>
<td>- Digital Advertising</td>
</tr>
<tr>
<td>- Electronic Display Board</td>
</tr>
<tr>
<td>- Government Email Services (GES)</td>
</tr>
<tr>
<td>3 Exhibitions</td>
</tr>
<tr>
<td>4 Production of resource materials</td>
</tr>
<tr>
<td>5 Others</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

- National Ozone Unit Achievements (July 2017 – June 2018)
  - Sensitisation workshop on the Kigali Amendment by resource person from Ozone Secretariat, of the UNEP in the context of the International Ozone Day;
o One-day Awareness raising on the importance to have Certified Technicians in the Refrigeration/Air-conditioning Sector;

o Training of Technicians on Hydrocarbon Technology at the Mauritius Institute of Training and Development (MITD) centre;

o Half-day Workshop with students of the University of Mauritius;

o Data reporting to Multilateral Fund and United Nations Environment (UNE);

o Processing of import/export clearances for refrigerants;

o Preparation of draft CAB paper for ratification of the Kigali Amendment;

o Preparation and submission of Institutional Strengthening report and request for new tranche;

o Follow-up on implementation of activities under the Hydrochlorofluorocarbon Phase Out Management Plan; and

o Radio talks on Kigali Amendment (in creole and Bhojpuri).
Pollution Prevention and Control Division

1.0 Role and Functions of the Division

a) Addressing environmental complaints and enforcement of environmental laws;
b) Managing and addressing environmental complaints on Citizen Support Portal; and

2.0 Major Achievements for Period July 2017 to June 2018

During the period July 2017 to June 2018, a total of 1556 complaints (including those received through the Citizen Support Portal) and twenty-three (23) Industrial Waste Audit files have been processed by the PPC Division. Nineteen (19) court cases have been attended and five (5) Notices have been issued. The notices included 4 Stop Orders and 1 Programme Notice.

Table 7: Enforcement by this Ministry for July 2017 to June 2018

<table>
<thead>
<tr>
<th>SN</th>
<th>Key Actions</th>
<th>Key Performance Indicator</th>
<th>July 2017 - Dec 2017</th>
<th>Jan 2018- June 2018</th>
<th>July 2017 - June 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Enforcement of Environment Protection Act 2002 (i) Addressing Environmental Complaints, including those received on CSP (ii) Enforcement of IWA Regulations 2008</td>
<td>• Number of Complaints processed</td>
<td>860</td>
<td>659</td>
<td>1519</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of complaints processed through CSP</td>
<td>26</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of Notices issued</td>
<td>4</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of Court cases attended</td>
<td>13</td>
<td>6</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Number of IWA files processed</td>
<td>19</td>
<td>4</td>
<td>23</td>
</tr>
</tbody>
</table>
1.0 Role and Functions of the Division

As the scientific arm of the Ministry, the role of the National Environmental Laboratory (NEL) is to monitor environmental quality to ensure compliance with prescribed environmental standards.

The functions of the NEL consist of:

- Performing regular environmental monitoring to ensure compliance with the National Environmental Guidelines and Standards.
- Assessing the quality of air, water and other environmental media to track the impact of pollution and evaluate pollution trends.
- Carrying out regular ambient air quality monitoring exercises around the island so as to ensure that the quality of air people is breathing is good.
- Developing analytical methods and recommendations for new test parameters.
- Liaising with other laboratories for environmental monitoring, analysis and reporting
- Complying with the Environment Protection Act in maintaining the accreditation of the laboratory to the MS ISO/IEC 17025 international standards so as to submit valid analytical results in a court of law.

2.0 Major Achievements for Period July 2017 to June 2018

- Ambient Air Quality was continuously monitored with our network comprising three Fixed Ambient Air Monitoring Stations.
  - Two of the Fixed Stations, acquired in August 2015, are used for Urban Background monitoring dust, notably, fine Particulate Matter of size less than 10 microns (PM-10) at Vacoas and Port-Louis.

    Annual average results show that, at both stations, PM-10 level (13.25 ug/m$^3$ and 12.09 ug/m$^3$ respectively) is well within the WHO Guideline (20 ug/ m$^3$).

    - The third fixed station, acquired in September 2017, is used for Roadside monitoring at Rose-Hill. The station measures both dust and gaseous parameters, namely: PM-10, oxides of nitrogen, sulphur dioxide and carbon monoxide.

    All parameters measured were so far within their respective norms prescribed in the Mauritian Ambient Air Quality standard, as tabulated in Table 8.
<table>
<thead>
<tr>
<th>Parameters</th>
<th>Results range</th>
<th>Mauritian Ambient Air Quality Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrogen Dioxide (24-hour average)</td>
<td>4.96 ppb to 13.71 ppb.</td>
<td>105 ppb</td>
</tr>
<tr>
<td>Sulphur Dioxide (24-hour average)</td>
<td>1.87 ppb to 6.09 ppb</td>
<td>75 ppb</td>
</tr>
<tr>
<td>Sulphur Dioxide (1-hour average)</td>
<td>0.01 ppb to 20.72 ppb.</td>
<td>132 ppb</td>
</tr>
<tr>
<td>Carbon Monoxide (1-hour average)</td>
<td>0.00 ppm to 2.87 ppm.</td>
<td>21 ppm</td>
</tr>
<tr>
<td>Particulate Matter (24-hour average)</td>
<td>23.12 µg/m³ to 36.97 µg/m³</td>
<td>100 µg/m³</td>
</tr>
</tbody>
</table>

Note: ppb: parts per billion, ppm: parts per million, µg/m³: Micrograms per metre cube

- Ambient Air Quality (AAQ) monitoring was completed at eight hotspots, namely Bus Station Jan Palach Nord Curepipe (Roadside monitoring), Shoprite at Trianon (Fire Outbreak), Morcellement Rey (Pointe Aux Sables), Canal Dayot (St Louis Power Station), Camp Chaplon (St Louis Power Station), Soap and Allied Ltd (Chemical leakage at Plaine Lauzun), Avipro at Phoenix and Baie Du Tombeau near St Malo Ltd. Reports were submitted to the Pollution Prevention and Control (PPC) and EIA/PER Divisions for appropriate actions.

- The water quality of twenty-seven rivers was monitored around Mauritius under the Independent Environment Audit for wastewater and the last set of monitoring for year 2017 was completed in December 2018.

- Water Quality monitoring of other water bodies (such as surface and underground water at Mare Chicose among others) was on target and monitoring is on-going.

### 3.0 Strategic Direction

- Continuous Monitoring of Ambient Air Quality at Port-Louis and Vacoas (Urban Background) and at Rose-Hill (Roadside);

- Monitoring river water quality of 27 rivers and compilation of river monitoring results for year 2017 for reporting;

- Upgrading of the National Environmental Laboratory through:
  - Acquisition of additional ambient air quality monitoring analysers for the monitoring of ambient air at pollution prone areas.
  - Replacement of old and faulty laboratory equipment that are beyond economical repair; and

- Maintenance of the National Laboratories Complex to meet safety and health requirements.
1.0 Role and Functions of the Division

- Mainstreaming of sustainable development principles in key sectors of the economy;
- Mainstreaming of sustainable consumption and production patterns in key sectors of the economy; and
- Coordinate Regional and International Governance Issues (implementation of the environmental dimensions of the Sustainable Development Goals (SDGs) through UNEA, SAMOA Pathway).

2.0 Major Achievements for Period July 2017 to June 2018

2.1 Reporting on Sustainable Development Goals

Reporting on the Sustainable Development Goals (SDGs) to the Ministry of Foreign Affairs, Regional Integration and International Trade for Voluntary National Review on SDG 12 (Sustainable Consumption and Production) and SDG 13 (Climate Change).

2.2 Outreach for Sustainable Development

6 articles have been prepared on the following themes:

1. Qualité de l’air;
2. Consommation responsable;
3. Parcours de santé;
4. Economie verte;
5. Plastique; and
6. Humour- une belle leçon de Consommation Responsable et Durable

2.3 Mainstreaming of Sustainable Development

Preparation of Report on integrating sustainability in Living Environment Unit activities

2.4 SWITCH Africa Green Programme

With a view to green our economy, the Sustainable Development Division is presently implementing the SWITCH Africa Green Project Phase 2, which is a partnership between African Countries and the European Union to promote Sustainable Consumption and Production and Green Economy in African countries. As part of this project the following have been undertaken:

- Implementation of three policy recommendations made in Phase 1 of the project has been initiated. To this end, 3 TORS have been prepared and have been submitted to United Nations Environment to secure funds under Small Scale Funding Agreement, namely:
(i) Development of Standard for manure from animal wastes

The project seeks to generate quality sustainable fertiliser for food crop production by acquiring equipment required for testing to show that treated manure meets the standards developed and published by the Mauritius Standards Bureau.

A Standard for treated manure from animal waste has already been developed by MSB and is in the process of being published.

(ii) Development of a Greenhouse gas (GHG) emission model for livestock waste

The project seeks to develop an enhanced GHG emission model, which can be used to develop policy scenarios to mitigate the impacts of livestock waste.

(iii) Setting up of a pilot biogas production plant using livestock wastes

The project seeks to carry out a demonstration project on the setting up of a biogas plant in an existing livestock farm for production of liquid fertiliser and biogas as a source of renewable energy.

- **Launching of the SWITCH Africa Green Phase II Grant Project:** ‘Improving Sustainable Tourism in Mauritius through greening the value chain of tour operators’ which is being implemented by the Mauritius Tourism Authority.

This project aims at supporting Tour Operators in adopting sustainable, innovative and smart actions to improve the sustainability of their businesses. This will be achieved through capacity building and skills development being provided to operators in the tourism sector (small hotels and lodges, handicraft makers, pleasure craft operators, taxi drivers and tour guides). Sustainable procurement will also be encouraged with wholesalers, suppliers and small farmers for sustainable livelihoods and empowerment of the local community. Consequently, the sustainability of the value chain will be improved and the production of sustainable and innovative products scaled up.

- **Project monitoring and evaluation of projects undertaken in the Republic of Mauritius**

Component B (Green Business Development Component) of the SWITCH Africa Green Project seeks at providing Small Scale Grants to Micro, Small and Medium Enterprises (MSMEs) with the necessary skills and tool kits to shift to more sustainable production practices and promote green business development in 3 key areas of intervention, namely Agriculture, Manufacturing and Tourism.
Following a first Call of Proposal in April 2015, 6 projects from the Republic of Mauritius (3 in Mauritius and 3 in Rodrigues) benefited from grants to be completed by June 2018.

(iv) Greening the Mauritian Tourism Industry by Association des Hotels de Charme
   i. Gap analysis in 38 hotels including 18 in Rodrigues completed with regards to their operations and practices.
   ii. Technical assistance provided to participating hotels based on the gap analysis and recommendations
   iii. EMS Best practices manual formulated titled Sustainable Tourism: A Self Implementation Guidebook
   iv. Technical Assistance Guidebook has been developed to support individual hotel implementation
   v. A series of 12 training sessions was carried out in Mauritius (7 sessions) and Rodrigues (5 sessions) with 230 participants

(v) Programme National d'Efficacité Energétique (PNEE) by Business Mauritius.
   i. Around 80 Environmental Audits (EA) already completed in 8 sectors such as cold processes, hotels, textile companies, steam processes, compressed air processes, large distribution (hypermarkets), pumps/motors/fans processes and solar hot water companies.
   ii. Support and technical assistance are being provided to implement the recommendations of the EAs.
   iii. Support for EA is also being extended to SMEs and enterprises in transport.

(vi) Promoting Sustainable Local Agriculture through Green Retail and Green Hospitality (SUS-AGRI) by University of Mauritius
   i. Demand-side and supply side mapping report completed
   ii. Two pilot projects in retail sector and hotel sector initiated
   iii. 36 planters certified by MauriGAP (including 7 through pilot projects
   iv. 65 technical and managerial professionals from both hotels and retailers were trained in green procurement, green marketing and hotspot analysis
   v. Pilot projects on going with SKC Surat and Chinatamby, the retailers are still in the initiation phase
   vi. Workshop on the theme ‘A Roadmap for the promotion of the MauriGAP standard’ held in April 2018.

A Monitoring and Evaluation Mission was carried out in Rodrigues from 19 to 20 April 2018, together with the SWITCH Africa Green management team from UN Environment Africa and United Nations Office for Project Services (UNOPS).

(vii) Increase Capacity Building of the fishers’ Community of Rodrigues through training for the bio cultivation of Combava Lime plants and the production of its chilli paste by Commission of Fisheries
i. Due to phytosanitary issues encountered in the import of Combava seedlings from Reunion Island, the beneficiaries missed the planting season and were delayed by almost one year in the implementation phase. The seedlings are still being replicated and are not yet ready for planting.

ii. Training and capacity building through exchanges with Mauritius have been completed.

(viii) Developing capacity amongst Rodriguans to adopt green businesses through training to key stakeholders and the development of a green business guidebook by the Commission of Environment
   i. Training sessions in 8 areas have been carried out.
   ii. Some 768 participants have been trained
   iii. Around 250 entrepreneurs have been empowered to manage their own businesses.
   iv. A guidebook is under preparation.

(ix) A model for sustainable production and consumption practices and eco-entrepreneurship development by Centre de Formation Frère Rémi
   i. The activities of the project are completed.
   ii. One of the activities consisting at providing financial support to 18 beneficiaries had to be reviewed and replaced by (a) a model for pig farming and (b) setting up of a demonstration for bee keeping and honey production.

An extension of 3 months has been given for the grantees of Rodrigues to complete their project. A Policy Dialogue meeting was also held which aimed at bringing together key stakeholders to prioritise policy actions and decide on a national strategic direction. Very few stakeholders attended the meeting however potential projects and policy gaps were identified in the context of defining a policy roadmap.

3.0 Strategic Direction

- Development of the Green Economy or low-carbon pathways in key sectors such as energy, transport, agriculture, manufacturing, tourism, and waste.
- Advancing Sustainable Development and more efficient use of resources.
- Advocate Sustainable Consumption and Production.
1.0 Role and Functions of the Solid Waste Management Division

(i) Devise policies, strategies and develop programmes and projects for the environmentally sound management of solid and hazardous wastes;

(ii) Ensure that waste transfer and disposal sites namely transfer stations, the landfill and the interim hazardous waste storage facility are effectively and efficiently operated;

(iii) Enforce legislations with regards to solid and hazardous wastes management, including Environment Protection (Standards for hazardous wastes) Regulations 2001, Environment Protection (Collection, storage, treatment, use and disposal of waste oil) Regulations 2006;

(iv) Register Scavenging Contractors under the Local Government (Registration of Scavenging Contractors) Regulations 2004; and

(v) Register Recyclers and Exporters under the Local Government (Registration of Recycler and Exporter) Regulations 2013.

2.0 Major Achievements for Period July 2017 to June 2018

2.1 Wedge Works

The bulk of wastes generated in Mauritius are currently disposed at the Mare Chicose landfill. Due to the continued increase in solid wastes generation (average of 2.4% per annum), the lifetime of the Mare Chicose landfill has decreased significantly and was due to be saturated by 3rd quarter of 2018. Given the difficulties encountered in developing a new landfill site and the urgency to create void space for waste disposal, this Ministry, with the support of its Consultants, has identified the best value for money short/medium term solution to the problem, referred to as the “Wedge Works”.

This project will optimise available space in the Mare Chicose landfill by landfilling in an existing valley between the old cells (1 to 3) and the new cell 7 to form a ‘wedge’ for disposal of waste. It is estimated that the ‘wedge’ will provide an additional void space of about 500,000 m³ for landfilling. Part of the “Wedge Works” has already been completed and is ready to accept wastes. The life of the landfill will thus be prolonged up to the end of 2019.

2.2 Interim Hazardous Waste Storage Facility

The Interim Hazardous Waste Storage Facility (IHWSF) came into operation in April 2017 and over 193 inspections have since been carried out at state and private secondary
schools, laboratories in the public and private sector and major industries (textile, paint, sugar manufacturing and alcohol manufacturing, amongst others), resulting in the collection of over 30.6 tons of hazardous wastes. Operation of this facility ensures that these hazardous wastes are properly managed, thereby minimising the risks to the environment and public health.

2.3 Computerised Hazardous Waste Management System

As part of the operation of the IHWSF, requests for disposal of hazardous wastes are regularly made by hazardous waste generators at the SWMD. A computerised system linking the hazardous waste generators, the operator of the IHWSF and the SWMD has now been set-up and is operational since May 2018 for new hazardous wastes disposal requests. The system allows hazardous waste generators to place their disposal request online following which an assessment is made by the operator of the facility.

After approval and confirmation from the Ministry via the online platform, an inspection is carried out by the operator at the generator's premises. Following payment of the collection fee by the generator, a collection exercise will then be scheduled by the Contractor. The computerised system thus replaces a slow and time-consuming process in line with public sector business transformation strategy aiming at making the public sector dynamic and innovative able to deliver quality service that wraps around the client in a way that is efficient, transparent, fair and equitable as well as affordable.

3.0 Challenges

3.1 Solid Waste Disposal Capacity
The setting up of any waste treatment/disposal facility generally takes 3-5 years to materialise. Whatever future waste treatment or disposal facility is implemented, there will always be some residual wastes and rejects emanating from these plants during the operation as well as maintenance of these facilities. These need to be ultimately disposed in a landfill. With the implementation of the ‘Wedge’ Works, the Mare Chicose landfill is expected to reach saturation by end 2019.

Attempts to find land for a new landfill with a view to creating disposal capacity for the coming years have not yielded expected results. The only option available is the vertical expansion of the Mare Chicose landfill. The Consultant’s feasibility study and design will determine the extended life span of the landfill. However, indicatively, the additional lifespan is expected to be in the range of 5 to 8 years.

Once the Mare Chicose landfill site is fully saturated after the Vertical Expansion, there will still be a need for a landfill. New land of extent of some 30 to 40 Ha will have to be sought for development of a new landfill. Lateral expansion of the landfill will need to be envisaged but this will entail surveys with relevant Ministries and negotiations land owners.
3.2 Lack of Infrastructure for the Disposal of Construction and Demolition Wastes and Scrap Vehicles

Over the past year, illegal dumping has been a major challenge for the SWMD. Indeed, several complaints have been reported with regards to illegal dumping of construction and demolition wastes and scrap vehicles at different locations on the island including river banks, barelands, roadsides and public places. This situation of illegal dumping has arisen due to inadequate infrastructures for the disposal of these waste streams. As solutions to these issues, the following initiatives are being taken by the SWMD:

- Proposal for the setting-up and operation of temporary storage sites for construction and demolition wastes; and
- Feasibility study for the setting-up and operation of a scrapyard facility for end-of-life vehicles.
National Disaster Risk Reduction and Management Centre (NDRRMC)

1.0 Roles and Functions

The roles and functions of the Centre are regulated by the NDRRM Act 2016 which shall:

(a) act as the main institution in Mauritius for coordinating and monitoring the implementation of DRRM activities as per the National Strategic Framework and National Plan;
(b) ensure the implementation of the National Strategic Framework and National Plan;
(c) coordinate and monitor all DRRM activities;
(d) coordinate and monitor the implementation of the DRRM programmes through community participation and public awareness campaigns;
(e) work in close collaboration with the MMS, which shall develop and improve warnings and advisories systems for all natural hazards affecting Mauritius;
(f) implement a national multi-hazard emergency alert system to provide accurate and timely advice to the public and key stakeholders;
(g) support Ministries, Government departments, local authorities and communities in building capacity for DRRM;
(h) facilitate and coordinate the conduct of regular trainings, drills and simulation exercises to test the adequacy of disaster response plans;
(i) undertake and participate in post-disaster reviews, including lessons drawn from previous disasters in disaster preparedness and response plans;
(j) assist relevant stakeholders to develop an appropriate risk transfer mechanism for post-disaster recovery and rehabilitation purposes;
(k) collaborate with all relevant stakeholders so that DRRM becomes an integral objective of environment-related policies and plans, sound land use planning, natural resources management, education and social development plans, economic and sectoral policies, as well as infrastructure through enforcement of building codes;
(l) foster regional and international cooperation in DRRM issues, including best practices and sharing of expertise;
(m) promote research and development and commission studies on DRRM matters;
(n) publish and disseminate information concerning DRRM; and
(o) carry out such other activities as may be necessary or expedient for the administration of this Act.

1.1 Disaster Risk Reduction Measures

In line with Government’s vision to enhance the safety of citizens, the NDRRM Council and NDRRM Centre represent the institutional measures to mainstream and integrate disaster risk reduction measures within and across all sectors.

The NDRRMC is committed to promote a comprehensive and integrated multi-hazard approach to disaster risk reduction and disaster risk management, including prevention, preparedness, response and recovery and reconstruction to achieve sustainable development objectives and a disaster resilient nation.
1.2 Disaster Response Operations

National Crisis Committee

The National Crisis Committee chaired by the Minister responsible for disaster management is responsible to take decisive and timely actions through the NEOC to:

(a) ensure that general preparedness plans are activated at all levels;
(b) safeguard the life of persons in danger, including evacuation of persons at risk;
(c) supervise the organisation of disaster response operations;
(d) provide relief assistance;
(e) take appropriate measures during the initial recovery phase; and
(f) take such other measures as may be appropriate in the circumstances.

National Emergency Operations Command (NEOC)

The National Emergency Operations Command (NEOC) is a multi-agency structure within the NDRRMC and comprises of designated senior officials from the public bodies, private sector and NGO which is activated as and when required or in when a disaster is imminent to coordinate and monitor all disaster response and recovery activities. It is headed by the Commissioner of Police who may delegate his powers to any other appropriate person, depending on the nature of the disaster.

In order to ensure public safety, the NEOC has the power to:

(a) cause to be closed or diverted any public road which represents a potential risk to road users;
(b) cause the evacuation, either voluntarily or by using such force as may be necessary, of persons who are at risk;

(c) cause public facilities such as emergency shelters, educational institutions, stadiums, gymnasiums, parking spaces or any other public place to be used for the purpose of sheltering displaced persons or storage of emergency supplies;

(d) direct the closure of any underground facilities, subways, underpasses or such other places or facilities as may be necessary; and

(e) cause to be deployed such resources that may be required in the circumstances.

In the event a disaster in any part of the State of Mauritius is of such a nature and extent that exceptional measures are necessary to assist and protect the public in that area or where circumstances are likely to arise making such measure necessary, then our Prime Minister is empowered, on his own motion, or after consultation with the chairperson of the National Crisis Committee to declare a state of disaster in any area in Mauritius.

2.0 Major Achievements for the Period July 2017 to June 2018

- The National DRRM Council Meeting under the chairmanship of the Honorable Minister or Permanent Secretary met 12 times to look into policy matters.

- The National Crisis Committee met on 6 occasions due to extreme weather conditions coupled with NEOC activation on 33 occasions for a total duration of 67 days from July 2017 to June 2018 to deal with disasters and crisis situations, namely Heavy Swells/ High Wave, Strong Wind, Heavy/ Torrential Rain, Fire Outbreak, Tropical Storms (AVA, BERGUITTA and FAKIR) and Gas Leakage.

- A meeting under the National Environment Commission and chaired by the Honorable Prime Minister was held on 03 May 2018. The NDRRMC made a presentation on ‘Disaster Risk Reduction Issue - The Capital City’.

- Compensation amounting to Rs. 8,470,000 paid to 5 families at Quatre Soeurs who have vacated their houses and will be relocated to Camp Ithier.

- Contingency Plans for vulnerable regions such as Fond du Sac, Cite La Cure, Canal Dayot and Sable Noir, Rivière des Galets, Poste de Flacq, Camp Poorun, Cite Debarcadere and Cite Argy have been completed and handed over to respective Municipal/ District Councils. Contingency Plans for Baie Du Tombeau, Camp Manna and Bambous have been completed and awaiting views to be handed over.

- Emergency Action Plan for Bagatelle Dam (Phase 1) has been prepared in consultation with Water Resources Unit. A third Wet Testing of the hydro-mechanical equipment carried out successfully in June 2018.

- Rock Fall Emergency Scheme for Signal Mountain has been put into place.
Landslide Emergency Plan for Chitrakoot Government School has been developed in collaboration of Ministry of Education. The Chitrakoot Government School is closed due to affected infrastructure since March 2018.

Protocol on Heavy Rainfall for the Public Sector has been put into place.

Community Disaster Response Programme Training carried out at Riviere Du Poste and L’Amitie/ Gokhoola. CDRP Refresher Course carried out at Grand Sable and Fond Du Sac.

38 Simulation Exercises/Drills carried out in Mauritius and Rodrigues.

Awareness Campaign on Safety and DRR carried out for Public/ Private Primary Schools.

Sensitisation Programmes for women on safety measures carried out in different Women Empowerment Centres in collaboration with the Ministry of Gender Equality, Child Development and Family Welfare.

Acquisition of equipment completed:

- 11 Satellite Phones and one Inmarsat BGAN to facilitate communication and distributed to senior officials for use during emergencies in case of communication failure.
- Mobile Command Post Vehicle for onsite coordination during response operations.
- Advanced GPS equipment for assessment and mapping purposes.
- GIS software and hardware for geo-localisation and mapping.

Recruitment of Staff: 3 Coordinators for Community Mobilisation and Local Community Support, Preparedness Team and 1 Information and Communication Manager.

Workshops: MESA SADC (13 July 2017 at UoM) and Eco Based DRR (9 - 13 October 2017).

3.0 Trend and Challenges

3.1 Mainstreaming of DRR

The Sendai Framework for Disaster Risk Reduction 2015-2030 is considered as a key instrument in facilitating the mainstreaming of disaster risk reduction and management activities across all sectors in the Republic of Mauritius.

There is need to develop National Disaster Risk Reduction and Management Policies, Strategic Framework and Action Plan for the Republic of Mauritius, which will take into consideration the guiding principles of the Sendai Framework.
Following the advice of the Ministry of Finance, the NDRRMC has requested for funding from the Agence Française de Développement (AFD) (through the Climate Change Division) to prepare the ‘National Disaster Risk Reduction and Management Policies, Strategic Framework and Action Plan for the Republic of Mauritius’. The AFD is funding the above-referred project of the NDRRMC through the Adapt’Action project to the tune of 100,000 Euros.

### 3.2 Development of Flood Danger Zone Maps/Plans

To promote land-use planning and propose measures to reduce flood risk, it is necessary to have flood danger maps of high resolution i.e a scale of 1:5,000 as recommended by the Action H2 of the DRR Report 2013. This project is under consideration for implementation under the National Adaptation Plan with funding from the Green Climate Fund.

### 3.3 Rivers, Canals and Water Courses Flow Monitoring

There is currently no real time monitoring of flows in the rivers, canals and other water courses in Mauritius. Lack of such real-time river flow monitoring system could impede flood forecasting and for providing timely alert to the public for eventual evacuation. It is therefore important to develop a modern, national-level Flood Forecasting and Early Warning System.

Upon the concluding result of the Pilot Research Project (Le Pouce Stream) on Urban Drainage Pilot Project ongoing by University of Mauritius, a **Flood Monitoring System** using Wireless Sensor Network, jointly with the University of Mauritius, would be implemented at St Louis River for continuous real time monitoring of flood.

### 3.4 The National Multi-Hazard Emergency Alert System (NMH EAS)

This Project financed on a pilot basis under the National Environment Fund, should provide a reliable high performance system to disseminate warnings and alerts messages to a maximum number of people and stakeholders in the Republic of Mauritius within an acceptable time frame by broadcasting warning and alerting messages through a number of channels, for example telecom networks (mobile/landline), television and radio, Internet (including social media), display signs and public broadcasting systems (e.g. sirens). The system will cover Mauritius, Rodrigues, Agalega and St Brandon.

### 3.5 Cyclone Proof and Disaster Resilient Sheltering Facilities

The residents and stakeholders operating at St Brandon and Agalega have been found to be vulnerable to severe weather-related events such as super cyclones, storm surge, heavy swells and as well as tsunamis. Therefore, adequate multi-hazard sheltering facilities need to be provided to these outer islands.
Currently there is no cyclone safe shelter on both Agalega (South Island) and St Brandon. In view of the threat faced by the inhabitants of Agalega (South Island) and St Brandon during the passage of cyclones, there is an urgent need to construct concrete cyclone bunkers on each of these islands.

This project proposal is in line with the INDC (Intended Nationally Determined Contribution) component ‘Enhancing protection of critical public infrastructure’ and its funding is being sought through the INDC.

3.6 The Geographic Information System (GIS)

The Geographic Information System (GIS) is an effective tool in the management of disasters. Currently GIS is being used on an ad-hoc basis at the level of the NDRRMC. There is a need to set up a GIS Unit at the NDRRMC, in view to take advantage of the capabilities provided by GIS and to integrate this tool into the disaster risk reduction and management process. The NDRRMC has recently acquired an advanced set of GPS equipment and the Centre envisages to recommend the recruitment of a GIS officer and technicians at the earliest.

3.7 Community Empowerment

During periods of crisis, community involvement through the Ministry of Youth and Sports, Senior Citizen Associations and the National Women Council amongst others is crucial. The Community Disaster Response Programme aims at training volunteers by initiating them to basic safety and rescue techniques. During periods of heavy rain, the team can provide assistance to response agencies. CDRP Refresher courses are also carried out.

3.8 Strategic Review of Warning Systems: Enhancing Meteorological Observation, Forecasting and Warning Capabilities

The Mauritius Meteorological Services is in the process of upgrading its forecasting capabilities through the introduction of a Doppler Weather radar. The possibility of introducing an automated flood monitoring system in flood prone areas, rivers, canals integrated with the Doppler Weather Radar will be developed. This set up would provide timely warning and alert to first responders and the general public against hydro-meteorological events.

The introduction of a ‘Phase de Sauvegarde’ within the present cyclone warning system is also envisaged and a policy decision at the level of the NDRRM Council on the matter is being awaited.

The Mauritius Meteorological Services is also proposing to introduce a cyclone warning system to Agalega and St Brandon.
3.9 Public Awareness and Education

Disaster Risk Reduction is not currently part of the Mauritian culture, especially among young generation that have not experienced the severe natural disaster their parents and grandparents have known. There is a strong need for tailored and gender differentiated education program that will reach target audience on a very strong and efficient level, through innovative designs, delivery ways and materials.

3.10 Assessment of the Capacity Building Needs of First Response Disaster Management Agencies

This project aims at identifying the capacity building needs of all first responders and identifying linkages and overlaps, with the goal of clarifying roles and responsibilities in order to be better trained and equipped to face existing and emerging challenges. An Implementation Matrix has been tabled at the Council for consideration.

3.11 Emergency Alert Mobile App

The Mobile App acts as a channel of communication between the National Emergency Operations Command (NEOC) and/or the National Disaster Risk Reduction Management Center (NDRRMC) and members of the general public and provides alert notifications as and when required by the NEOC/NDRRMC.

3.12 MyT Weather

This App is a common platform for alerts/ emergency news, viral information from different government institutions and other authorised entities in Mauritius and which people can access through the mobile application.

3.13 Development of a Protocol for Heavy Rainfall for the Private Sector

In line with the Protocol for Heavy Rainfall for the Public Sector, a similar protocol is being prepared for the Private Sector and is expected to be completed before the next rainy season. Such a Protocol aims at preventing unnecessary disputes and confusion, maintain good labour management relations, and ensure safety of employees, whilst maintaining continuity of business.

3.14 School Safety Plans

As per the DRR Report 2013 and observations on ground, 45 schools (26 primary and 19 Secondary Schools) have been found to be prone to flooding and coastal inundation. The NDRRMC, Mauritius Fire and Rescue Service (MFRS) and the Ministry of Education are
working together to develop a standard template which could be customised based on the specificities of each of the 45 vulnerable schools on a priority basis.

### 3.15 HAZMAT Regulations

The draft HAZMAT Regulations prepared by the Ministry of Local Government and Outer Islands (MoLG)/MFRS was submitted to the Attorney General's Office for vetting. It was advised that the proposed amendments empower the Chief Fire Officer to take the lead by amending the MFRS Act instead of by way of Regulation. The draft HAZMAT Regulations was also tabled at the NDRRM Council. Approval at the level of the NDRRM Council is being awaited.

### 3.16 Budget Provision of 2% as per NDRRM Act

To encourage Ministries/Departments to allocate 2% of their budget provision to DRR activities.

### 3.17 Emergency Plan for Hospitals, Hotels, Consulates and Embassies, Outer Islands, Residential care homes.

There is a need to develop Emergency Plans for Hospitals, Hotels, Residential care homes, Consulates and Embassies during crisis situations and Outer Islands during disasters and emergencies.

### 3.18 DESINVENTAR

As part of the Sendai Framework's Priority 1 'Understanding Disaster Risk', the country has to set up a Disaster Loss Database in view to systematically record disaster loss and damage due to both small-scale and large-scale disasters. There is a need to train relevant stakeholders on Disaster Loss Database, in view to enable continuation of the work already carried out on DesInventar.

### 3.19 Vulnerability of Mauritius to Tsunami and Earthquake

In the aftermath of the Great Sumatra Earthquake and Indian Ocean Tsunami of December 26, 2004, countries of the Indian Ocean basin formed an Intergovernmental Coordination Group (ICG) for the development of an Indian Ocean Tsunami Warning System (IOTWS). Significant Tsunami waves can be generated following earthquakes in the Indonesia/Sumatra Region as well as the Makran Region, which will be of concern to the Indian Ocean.

On the 27 February 2018 at 23hr25, an earthquake of magnitude 4.1 occurred at about 114 km to the South West of Tamarin, Mauritius. People across the island felt the shaking for a few seconds.
Moreover, with the presence of La Fournaise Volcano at Reunion and the Mid–Indian Ridge close to the East of Rodrigues, the Republic of Mauritius is prone to feel earthquakes occurring in the vicinity of the Islands. There is therefore a need to make a proper national earthquake and tsunami study. In this context, the assistance of the UNDP is being sought in terms of the provision of an expert to undertake Vulnerability study for Earthquake and Tsunami for the Republic of Mauritius.

4.0 Strategic Direction

To implement effective disaster risk reduction and management to enhance public safety. This may be achieved by:

Addressing existing challenges and prepare for future ones by focusing on assessing, understanding and monitoring disaster risk and as well as sharing such information to concerned stakeholders;

(ii) Strengthening coordination on Disaster Risk Reduction across relevant institutions and sectors; and

(iii) Enhancing multi hazard early warning systems, preparedness, response, recovery, rehabilitation and reconstruction capabilities.
<table>
<thead>
<tr>
<th>Para in Budget Speech</th>
<th>Budget Measure</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Installation of rain water harvesting systems in 14 primary schools</td>
<td>Project completed in 27 primary schools. Works are expected to be completed in 4 additional primary schools.</td>
</tr>
<tr>
<td>216</td>
<td>Distribution of an additional 10,000 compost bins to the population</td>
<td>12,347 compost bins of capacity 220L and 1580 compost bins of capacity 330L would be delivered soon.</td>
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<tr>
<td>218</td>
<td>Setting up of a refuge centre at Quatre Soeurs</td>
<td>Works completed on 31 March 2018.</td>
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<tr>
<td>218</td>
<td>Upgrading the infrastructure facilities of the Beach Authority at Pereybere, Belle Mare, Blue Bay and Flic en Flac</td>
<td>Infrastructural facilities have been completed and are already in operation at Pereybere, Belle Mare and Flic-en-Flac.</td>
</tr>
</tbody>
</table>
| 219                  | Renovation work and embellishment of our places of worship.                    | Completed  
As at January 2018, some 35 sites have been renovated and embellished. Upgrading works at 5 additional sites have been completed. |
## Status on Implementation of Key Actions

<table>
<thead>
<tr>
<th>SN</th>
<th>Key Action</th>
<th>Key Performance Indicator</th>
<th>Target (as per Budget Estimates)</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td>Coastal Protection and Rehabilitation to Address Beach Erosion</td>
<td>Number of Coastal Sites protected and Rehabilitated</td>
<td>3</td>
<td>Works at Grand Baie Sunset Boulevard, Case Noyale and Residence La Chaux are expected to be completed by October 2018, November 2018 and December 2018 respectively. Works at Baie du Tombeau are expected to be completed by April 2019</td>
</tr>
<tr>
<td>2.</td>
<td>Implementation of a National Multi hazard Emergency Alert System</td>
<td>Percentage of project completion</td>
<td>25%</td>
<td>22%</td>
</tr>
<tr>
<td>3.</td>
<td>Sensitisation of students on the importance of Biodiversity</td>
<td>Number of schools where endemic gardens have been set up</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>4.</td>
<td>Implementation of Beach Management Plans (BMP)</td>
<td>Number of beaches upgraded with appropriate amenities and facilities</td>
<td>3</td>
<td>BMP for Mont Choisy Public Beach has been developed, finalised and validated during the National Workshop held on 11 June 2018.</td>
</tr>
<tr>
<td></td>
<td>Treatment of Hazardous Waste at La Chaumiere</td>
<td>Quantity of Hazardous Waste collected and exported annually (tonnes)</td>
<td>400</td>
<td>Amount collected: 30.6 tonnes. The export for the wastes collected is currently under process</td>
</tr>
</tbody>
</table>
Risk Management, Citizen Oriented Initiatives and Good Governance

The Ministry views risk management as an integral part of its objectives of effective management of assets among others, and has thus put a number of measures in place to ensure that assets are safeguarded and for compliance with the principles of good corporate governance.

1.0 Service Delivery

The Ministry has a resource centre where the public in general including students, researchers and consultants can have access to documents, magazines and periodicals on environmental issues. Copies of Environmental Impact Assessment (EIA) reports are also available at the resource centre for public consultation.

The Ministry also accommodates an NGO desk that provides support and technical assistance to registered NGOs. Moreover, the NGO desk at the Resource Centre serves as a focal point for NGO meetings.

Complaints related to any environmental issues are recorded at the Pollution Prevention and Control Division and at the Police de l’Environnement. Subsequently, officers effect site visits, individually or in the company of the relevant enforcing agencies. Contravenants of the environmental law and regulations are, in the first place, directed to take appropriate mitigative measures to abate the pollution problems. In the event of persisting problems, Notices are served in accordance with the provisions of the Environment Protection Act 2002.

2.0 Safeguard of Assets and Data

A fixed asset register and an inventory system are in place for the safeguarding of Assets. Data stored in all electronic equipment are also protected as the latter can only be accessed by passwords.

3.0 Risk Assessment

An anti-corruption policy has been devised for the Ministry following which risk assessment was carried out to identify potential risk areas. Internal audits are also carried out at the Ministry so as to ensure that all procedures, including procurement procedures, are being strictly followed.

Audit Committee

An Audit Committee has been set up at the level of the Ministry to advise management on areas of concern and to ensure that corrective action is taken. The Audit Committee, inter alia, evaluates the overall effectiveness of the internal control and risk management frameworks and considers whether recommendations made by the internal and external auditors have been implemented by Management.
The Ministry of Social Security, National Solidarity and Environment and Sustainable Development (Environment and Sustainable Development Division) is under the Vote Item 13-2 and it has six Expenditure Subheads under its control as follows:

(i) 13-201: General;
(ii) 13-202: Environmental Protection and Conservation;
(iii) 13-203: Monitoring, Uplifting and the Embellishment of the Environment;
(iv) 13-204: Sustainable Development and Climate Change;
(v) 13-205: Solid and Hazardous Waste and Beach Management; and
(vi) 13-206: National Disaster Risk Reduction.

Expenditure

The figure below provides an illustration of expenditure incurred by the Environment and Sustainable Development Division in FY 2017/18 under Vote 13-2.

Goods and Services account for 56% of expenditure incurred by the Ministry of Environment and Sustainable Development Division in FY 2017/18 under Vote 13-2.
### Financial Highlights

**VOTE 13-2: Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)**

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<td><strong>1,536,000</strong></td>
<td><strong>1,242,045</strong></td>
<td><strong>1,436,000</strong></td>
<td><strong>1,256,057</strong></td>
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<td>of which</td>
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<tr>
<td>Recurrent Expenditure</td>
<td>210,100</td>
<td>247,802</td>
<td>185,000</td>
<td>107,429</td>
<td>121,800</td>
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<td>72,000</td>
<td>63,386</td>
<td>72,500</td>
<td>68,011</td>
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<td>174,200</td>
<td>51,450</td>
<td>123,200</td>
<td>51,172</td>
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<td><strong>Sub-Head 13-203: MONITORING, UPL AND THE ENVIRONMENT</strong></td>
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<td>253,450</td>
<td>206,713</td>
<td>254,800</td>
<td>207,239</td>
<td>262,300</td>
<td>200,931</td>
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<td>177,000</td>
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<td>9,000</td>
<td>8,937</td>
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<td><strong>Sub-Head 13-205: SOLID &amp; WASTE AND BEACH MANAGEMENT</strong></td>
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<td>715,341</td>
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<td>795,277</td>
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<td>580,090</td>
<td>628,600</td>
<td>679,791</td>
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<td>49,175</td>
<td>15,348</td>
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<td>27,000</td>
<td>11,230</td>
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<td><strong>TOTAL</strong></td>
<td><strong>1,806,000</strong></td>
<td><strong>1,590,538</strong></td>
<td><strong>1,536,000</strong></td>
<td><strong>1,242,045</strong></td>
<td><strong>1,436,000</strong></td>
<td><strong>1,256,057</strong></td>
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## Statements of Revenue and Expenditure

### VOTE 13-2: Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

#### Sub-Head 13-201: GENERAL

#### STATEMENT OF EXPENDITURE

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<td>46,184,000</td>
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<td>22,226,000</td>
<td>22,425,000</td>
<td>20,718,000</td>
<td>23,360,000</td>
<td>25,997,734</td>
<td>23,300,000</td>
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<td>25 Subsidies</td>
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<td>26 Grants</td>
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<td>2,220,000</td>
<td>2,875,000</td>
<td>2,102,000</td>
<td>2,956,000</td>
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<td>28 Other Expense</td>
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<td>210,100,000</td>
<td>247,802,000</td>
<td>185,000,000</td>
<td>167,429,000</td>
<td>121,800,000</td>
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Sub-Head 13-202: ENVIRONMENTAL PROTECTION AND CONSERVATION

STATEMENT OF EXPENDITURE

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<td>Total</td>
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Sub-Head 13-203: MONITORING, UPLIFTING AND THE EMBELLISHMENT OF THE ENVIRONMENT

STATEMENT OF EXPENDITURE

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### Sub-Head 25-104: SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE

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### Sub-Head 213-205: SOLID AND HAZARDOUS WASTE AND BEACH MANAGEMENT

#### STATEMENT OF EXPENDITURE

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### Sub-Head 13-106: National Disaster Risk reduction

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PART IV - WAY FORWARD FOR THE MINISTRY

Strategic Direction

With a view to achieving our engagement towards a “cleaner, greener and safer” Mauritius, this Ministry will:

- enhance the climate change adaptation and mitigation policies;
- implement effective disaster risk reduction and management for enhancing public safety;
- domesticate international environmental commitments and harmonise the implementation of Multilateral Environmental Agreements (MEAs);
- enhance pollution control and enforcement as well as monitor ambient air quality in Mauritius;
- reduce vehicular emissions and move towards a more sustainable land transport sector;
- devise and implement appropriate legal and policy framework regarding environment related issues;
- implement coastal protection and rehabilitation works to increase the resilience of our beaches and address immediate concerns;
- ensure sustainable solid waste management through proper resources recovery and recycling with a view to diverting maximum disposal of wastes from landfilling;
- strengthen coordination on Disaster Risk Reduction across relevant institutions and sectors; and
- re-engineer this Ministry’s processes to generate improvements in critical measures in quest for excellence.