



MINISTRY OF ENVIRONMENT,  
SOLID WASTE MANAGEMENT AND CLIMATE CHANGE  
(SOLID WASTE MANAGEMENT DIVISION)

ANNUAL REPORT  
FINANCIAL YEAR 2020-21





# INTRODUCTION

In line with the requirements of the Finance and Audit Act, the Solid Waste Management Division has prepared its Annual Report on Performance for the fiscal year 2020/21.

Structured as per the guidelines issued by the Ministry of Finance, Economic Planning and Development, the report provides information on the Division in line with the spirit of performance-based budgeting. It is the firm belief of the Division that transparency and accountability are the basis of good governance that ultimately leads to efficient and effective performance.

This report gives an overview of the Solid Waste management Division's main roles/functions and evaluates its key actions, major projects, programmes and measures planned for the year. It also provides a Statement on the revenue and expenditure for the financial year 2020/21.

## *The Structure of the Annual Report is as follows:*

### PART I: About the Solid Waste Management Division

Part I sets out the vision, mission, role and functions of the Solid Waste Management Division as well as a gender statement.

### PART II: Achievements & Challenges

Part II covers mainly the major achievements, status of the budget measures and key actions for the financial year 2020/21. It also includes an Implementation Plan giving the status of actions taken and planned following the observations and recommendations of the Director of Audit on the examination of accounts and records for financial year 2019/2020.

### PART III: Financial Performance

Part III provides the financial highlights for the year, an overview of major changes and statements of revenue and expenditure.

### Part IV: Way Forward

Part IV highlights the trends and challenges and the strategic directions of the Division.



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## STATEMENT OF MINISTER



I am pleased to present the Annual Report on Performance for the Solid Waste Management Division of my Ministry for financial year 2020-2021. This report will provide our stakeholders visibility on the various projects, which are being undertaken by the Division.

The environmentally safe and sound management of solid and hazardous wastes remains a challenge and one of the top priorities is the protection of human health and environment. In this context, we will soon be proceeding with the vertical expansion of the sanitary landfill at Mare Chicose in view to increasing its disposal capacity for some 10 years so as to prevent a waste disposal crisis in Mauritius. Notwithstanding this measure, the Government has laid emphasis on sustainable waste management and my Ministry is already adopting a circular economy approach in the solid waste management sector. We have embarked on the second phase of our new Solid Waste Management Strategy and Action Plan which consists of a feasibility study regarding the sorting of waste at source and the setting up of regional composting plants and sorting units.

Within the current linear production and consumption economic model, only a small share of waste produced is reused, recycled or traded as secondary materials. The vast majority, including valuable and scarce materials, goes to the landfill.

In light of finite resource flows, economies will no longer be able to rely on these linear production and consumption models. A circular economy is an alternative to this model encompassing a novel business and consumption approach with a promising avenue to close the material loops. The circular approach aims at keeping products and materials in the value chain for a longer period and promoting the reuse, recovery and recycling of products and materials continually, using renewable energy as far as possible.

Pending the outcome of the feasibility study report on composting plants and sorting units, with a view to diverting materials, such as paper/carton, plastics, metals, wood and waste oils for recycling, we have already constructed a civic amenity centre at La Chaumière, which is operational since 18 November 2020. A second civic amenity centre has been constructed at La Laura Transfer Station in Caroline and is operational since 28 October 2021. Furthermore, we have embarked on other projects in line with the circular economy, such as the launching of Request for Proposal documents for the setting up and the operation of a used tyres processing facility and a feasibility study on the potential of anaerobic digestion of organic wastes in Mauritius. Procedures for the commissioning of a feasibility study for the setting up and operation of a scrapyards facility for end-of-life sd have also been initiated. We have also prepared the key elements of draft regulations on the Extended Producer Responsibility mechanism for the management of electrical and electronic wastes. This new system is expected to become operational by 2023 and will ensure the recycling of electrical and electronic wastes in line with the concept of circular economy.

An integrated waste management legislative framework is being developed. This framework is expected to be finalized by the end of financial year 2021/2022.

Regarding the hazardous waste sector, the interim hazardous waste storage facility at La Chaumière ensures that hazardous wastes are being managed in an environmentally sound manner while protecting public health in line with the provisions of the Basel and Bamako Conventions, to which Mauritius is signatory. The importance of this facility was felt even more during the unfortunate event of the MV Wakashio shipwreck whereby the interim hazardous waste storage facility ensured that all hazardous wastes generated from the shipwreck were properly packaged and stored.

I seize this opportunity to convey my appreciation to all members of the staff of the Division for their dedication and achievements during the period under review as well as the collaboration of all the stakeholders involved in the solid and hazardous waste sector. I look forward to a more fruitful year in terms of project completion as well as fulfilling our quest to a more sustainable and integrated solid and hazardous waste management system focused on resource recovery and recycling.

**Hon. Kavydass Ramano**  
Minister of Environment,  
Solid Waste Management  
and Climate Change

## STATEMENT OF PERMANENT SECRETARY



I am proud to present the Annual Report on Performance of the Solid Waste Management Division for the period pertaining to financial year 2020/21.

Handling a recurrent budget of Rs 631 Million for the financial year 2020-2021, the main challenge of the Solid Waste Management Division has been to ensuring an environmentally safe and sound management of solid and hazardous wastes for the protection of public health and environment. This is done through the waste infrastructures across the island, namely the Mare Chicose Landfill, the five transfer stations across the island and the interim hazardous waste storage facility at La Chaumière, which require an effective management, control and supervision. The Solid Waste Management Division also ensures, through its Enforcement Unit, that the regulations pertaining to the solid and hazardous waste sector are properly enforced.

Over eight million tonnes of solid waste have been disposed at the landfill since its operation in 1997. In 2020, about 510,000 tonnes of solid waste were landfilled. It is noted that there has been an average annual increase of 2% in the waste generated over the past 10 years. Most of the solid wastes generated in Mauritius (95%) are currently landfilled. Based on the current waste trend, it is expected that the total wastes generated by 2030 will approximate 684,000 tonnes. In this context, action has been initiated for the vertical expansion of the sole existing landfill, aiming at increasing the disposal capacity of the landfill for some ten years.

Although landfilling has ensured an environmentally safe and sound management of solid wastes since 1997, it is not sustainable and it is the least preferred solution in the waste management hierarchy. In this context, the Solid Waste Management Division, with a view to adopting a more sustainable approach, is moving from the linear “take-make-waste” model towards a circular economy approach in the solid waste sector. In the same line, a series



of budgetary measures focusing on resource recovery and recycling, including the setting up of civic amenity centres “déchetteries” was made in the budget for financial year 2020-2021 and the first civic amenity centre is now operational at La Chaumière. A Solid Waste Management Strategy and Action Plan focussing on source segregation of waste, composting and recycling in the short to medium term and energy recovery in the long term has been spearheaded.

Being the competent authority for the Bamako and Basel Conventions in Mauritius, the Solid Waste Management Division has been playing a crucial role in the management of hazardous wastes through its interim hazardous waste storage facility in La Chaumière. The importance of this facility was highly felt during the unfortunate event of the MV Wakashio shipwreck.

I seize this opportunity to express my appreciation and gratitude to the Honourable Minister of Environment, Solid Waste Management and Climate Change for his continuous and valuable support. I also wish to thank the staff of the Solid Waste Management Division for their efforts and dedication.

**Mrs Sewah K. DOORGAKANT**  
**Permanent Secretary**  
Ministry of Environment,  
Solid Waste Management  
and Climate Change  
*(Solide Waste Management Division)*





**PART I**  
ABOUT THE SOLID WASTE MANAGEMENT DIVISION

## VISION, MISSION AND CORE VALUES

### *Vision*

To achieve a sustainable, healthy and vibrant Circular Economy in Mauritius.

### *Mission*

To ensure an efficient and sustainable management of solid and hazardous wastes for the present and future generations.

### *Core Values*

The Solid Waste Management Division is committed to uphold the following core values:

<b>Integrity</b>	Keeping the highest standards of professional ethics
<b>Innovation</b>	Paving the way by fostering a working environment where creative thinking is encouraged
<b>Adaptability</b>	Being flexible and capable to adapt to changing environmental requirements and working conditions
<b>Sustainability</b>	Managing our Landfill, Transfer Stations and other facilities in a way so as to protect the environment and preserve safety and health in the country
<b>Teamwork</b>	Fostering synergy among staff, promoting communication and information sharing

# ROLE AND FUNCTIONS OF THE SOLID WASTE MANAGEMENT DIVISION

## *Role*

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.

## *Key Functions*

- Devise policies and strategies and develop programmes for the environmentally sound management of different waste streams, including hazardous wastes.
- Control and supervise waste disposal sites (transfer stations, interim hazardous waste storage facility and sanitary landfill) in Mauritius.
- Promote waste recycling and recovery.
- Enforce legislations relating to solid and hazardous wastes.
- Register Scavenging Contractors, Recyclers and Exporters of wastes.
- Ensure proper maintenance of a number of public beaches.
- Remove asbestos from ex-CHA/EDC houses.

## *Units of the Division*



## *Key Legislations Pertaining to Solid Waste Management*

- Environment Protection (Standards for Hazardous Wastes) Regulations 2001.
- Local Government (Dumping and Waste Carriers) Regulations 2003.
- Local Government (Registration of Scavenging Contractors) Regulations 2004.
- Environment Protection (Collection, Storage, Treatment, Use and Disposal of Waste Oil) Regulations 2006.
- Local Government (Registration of Recycler and Exporter) Regulations 2013



## ABOUT OUR PEOPLE

The Minister of Environment, Solid Waste Management and Climate Change is the political head of the Ministry and determines the policy direction and priorities of the Ministry.

The Permanent Secretary is the administrative head and the Accounting Officer of the Solid Waste Management Division. She is assisted in her functions by one Director and one Deputy Permanent Secretary.

The Director is assisted by one Deputy Director, two Principal Project Officers, Project Officers/Senior Project Officers and Technical Enforcement Officers for management of solid and hazardous wastes, supervision and control of the waste disposal sites as well as the enforcement of regulations falling under the purview of the Solid Waste Management Division.

The Deputy Permanent Secretary is assisted by one Manager, Procurement and Supply, one Assistant Manager, Financial Operations, one Assistant Permanent Secretary and one Human Resource Executive for the purpose of procurement, finance, administrative and human resource management.



## SENIOR MANAGEMENT TEAM

ADMINISTRATION			
Designation	Name	Tel No	E-mail address
Permanent Secretary	Mrs Sewah K. Doorgakant	201 2741 (thru CS) Fax 201 3574	sdoorgakant@govmu.org
Deputy Permanent Secretary	Mrs Marielle Noël-Dabeecharun	201 1219 (thru CS) Fax 201 3881	knoel-dabeecharun@govmu.org
Assistant Permanent Secretary	Mr Devendranath Joymungul	201 2502	djoymungul@govmu.org
TECHNICAL SECTION			
Director	Mr Bhaguthsing Beerachee	201 3683 (thru CS)	bbeera@hotmail.com
Ag. Deputy Director	Mr Deochan Dookee	201 2743	gdookee@gmail.com
Principal Project Officer	Ms Kreshny Guriah	201 3914	kguriah@govmu.org
Principal Technical Enforcement Officer	Mr Jeetendranath Jokhoo	201 3521	jjokhoo@govmu.org
FINANCIAL OPERATIONS			
Assistant Manager, Financial Operations	Mrs B. Moontaze Moolye	201 2742	mmoolye@gov.mu.org
PROCUREMENT AND SUPPLY			
Manager, Procurement and Supply	Mr Rahmataly Auleear	201 1320	rauleear@govmu.org
HUMAN RESOURCES			
Human Resource Executive	Mrs Aansha Teeluckdharry	213 4097	anteeluckdharry@govmu.org

*Table 1: Senior Management Team*

# ORGANISATIONAL CHART

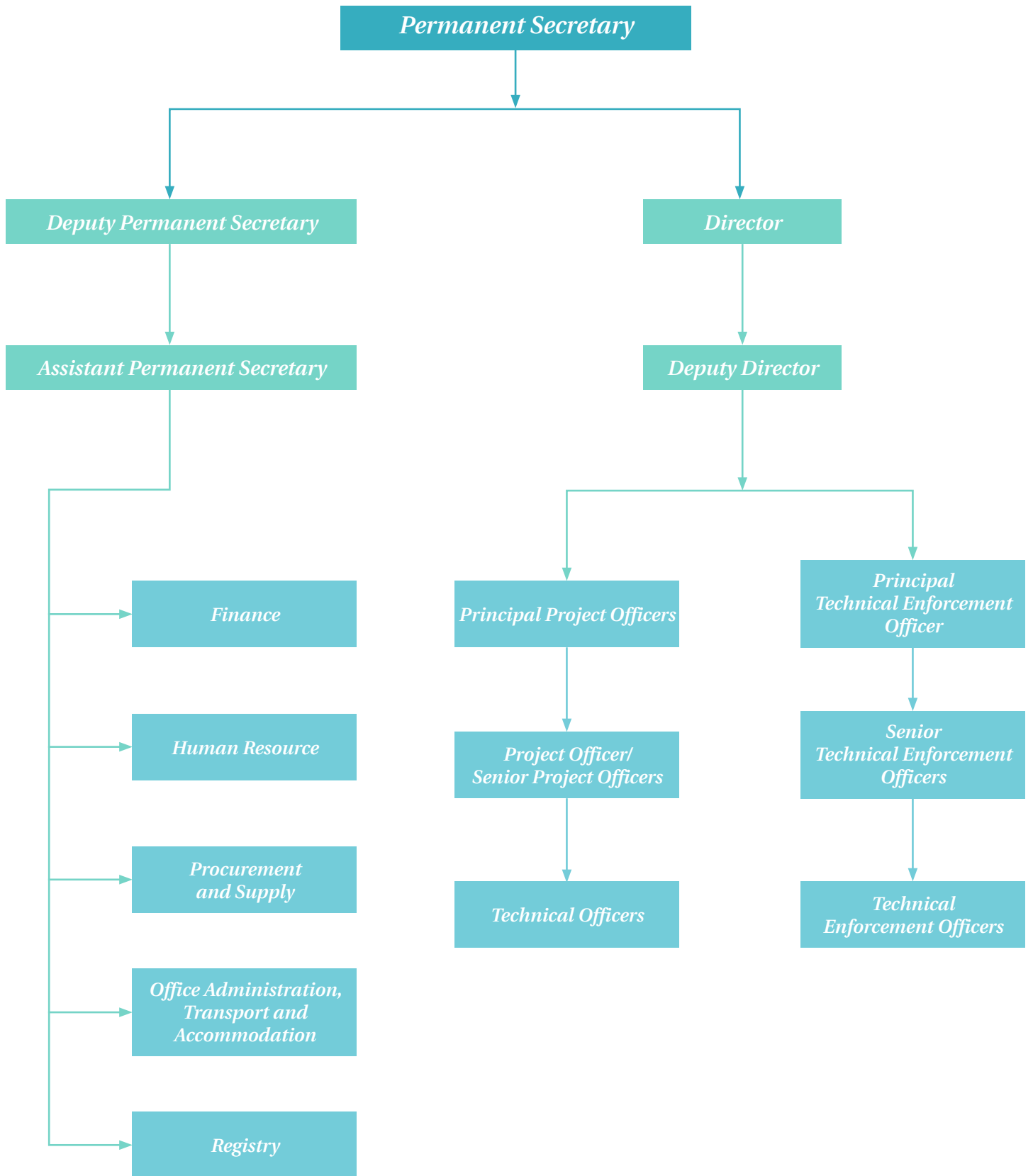


Figure 2: Organisational Chart

## Human Resources

As at 30 June 2021, the Solid Waste Management Division had a workforce of 77 officers as follows:

EMPLOYEES	MALE	FEMALE	TOTAL
Administrative Cadre	1	2	3
Director, SWMD	1	0	1
Deputy Director, SWMD	1	0	1
Financial Operations Cadre	0	3	3
Human Resources Cadre	0	1	1
Procurement and Supply Cadre	2	1	3
Technical Cadre	13	12	25
General Services Staff	9	9	18
Labourer on contract	1	0	1
Workmen's class	20	0	20
Trainees under the Youth Employment Programme	1	1	2
<b>Total</b>	49	29	78

Table 2: Human Resources as at 30 June 2021

The gender distribution is shown below:

### Employees' Breakdown by Gender

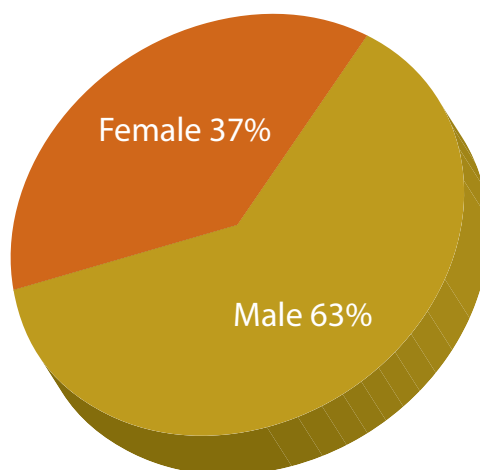


Figure 3: Employees Gender Distribution

## *Recruitment*

Three Project Officers/Senior Project Officers and two Technical Enforcement Officers were recruited during the year.

The following 18 employees who were serving on a contractual basis were appointed on a casual basis as from May 2021:

- 1 Leading Hand/Senior Leading Hand (Ex-supervisor, Tourism Authority);
- 3 Drivers (Ex Driver/Cleaner, Tourism Authority); and
- 14 General Workers (Ex-Labourer, Tourism Authority).



## *Retirement*

During the financial year, one Confidential Secretary and one Office Management Assistant retired from the service.

## *Demise*

- One Office Management Executive passed away on 21 September 2020.



## Human Resource Development

The Solid Waste Management Division puts a lot of emphasis on Human Resource Development with a view to helping employees develop their personal and organizational skills, knowledge and abilities.

In this respect, employees have benefitted from training and capacity building programmes, both locally and overseas during the period under review.

### Local Training and Capacity Building Programmes

21 employees have benefitted from training courses dispensed by the Civil Service College and sponsored by the Ministry of Civil Service, Administrative and Institutional Reforms. The list of training programmes and the number of employees who have benefitted from each programme are listed below:

TRAINING PROGRAMME	PARTICIPANTS
Tender Preparation and Evaluation	6
Managing Projects in the Public Sector	2
Training Programme on Capacity Building Programme for Frontline/Supervisory/ Technical Grades	6
Safety and Health in the Workplace	4
Registry Procedures	2
E - Procurement	1
<b>Total</b>	<b>21</b>

Figure 3 : Local Training Programmes

### Overseas Training and Capacity Building Programmes

Two officers from the Technical Enforcement Unit followed online training that was fully sponsored by the Japan International Cooperation Agency.

PROGRAMMES	CATEGORY	NUMBER OF EMPLOYEES	DURATION
Online Course on “Solid Waste Management based on Collaboration among Local Government and Citizens in Local Communities”	Technical Enforcement Officer	2	17 days

Table 3 : Online Training Programme

## *Staff Welfare*

For the first time, last year, a Christmas Party was organised at the Solid Waste Management Division wherein a gift was offered by Father Christmas not only to children below 11 years but also to all members of the staff.



December 2020 – Christmas Party



Staff Gathering –End of Year

## *Team Building Activity at the Heritage Awali – December 2020*



A team building activity was held at the Heritage Awali Golf and Spa Resort on 21 December 2020. Around 40 members of staff were present and participated in the ‘fill the Bottle’, Tug of War, Spin around the Bottle and other fun activities. The day ended with a common lunch and musical entertainment. Hon K. Ramano, Minister of Environment, Solid Waste Management and Climate Change graced the event by his presence.

Moreover, four officers participated in the Badminton Tournament 2020 organised by the Public Officers Welfare Council.





## GENDER STATEMENT

The Solid Waste Management Division acknowledges that Mauritius has ratified numerous international and regional human rights treaties, and signed declarations and commitments that call on the State to respect, promote and fulfil human rights.

The Division re-affirms its unflinching support to Government commitment to promote gender mainstreaming in all spheres of socio-economic development with a view to closing the equality gap between men and women, particularly in terms of fair representation in decision-making processes and forums. It is guided by the Government's Gender Policy and subscribes to the broad principles of the National Gender Policy Framework 2008.

In order to foster gender equality, gender justice and non-discrimination, gender mainstreaming shall always remain a priority for the Solid Waste Management Division. Equality of treatment in the provisions of training opportunities, grant of leaves and overtime work is ensured without any discrimination.

The Solid Waste Management Division has left no stone unturned concerning its efforts to adherence to the principles articulated in guidelines on gender mainstreaming of the Ministry of Gender Equality and Family Welfare.

The staff of the Solid Waste Management Division has been sensitized to ensure that they adopt a gender-neutral approach in the performance of their duties. The participation of staff of both genders is ensured in Committees and meetings. Adequate training and exposure is being provided to female staff empowering them to aspire for higher responsibilities.





**PART II**  
MINISTRY'S ACHIEVEMENTS AND CHALLENGES

# MAJOR ACHIEVEMENTS

## 1. Operation and Management of the Mare Chicose Landfill

The Mare Chicose landfill is the sole sanitary landfill of Mauritius. It is located in the south eastern part of the island, extending over an area of 50 Ha. This engineered landfill that has been designed based on best current practice, including the Environmental Protection Agency (EPA) Landfill Manual, to ensure containment of waste and protection of human health and the environment. The current layout of the landfill is shown below:



Figure 4: Mare Chicose Landfill site

The landfill site is operated by a private Contractor under the supervision of a Consultant.

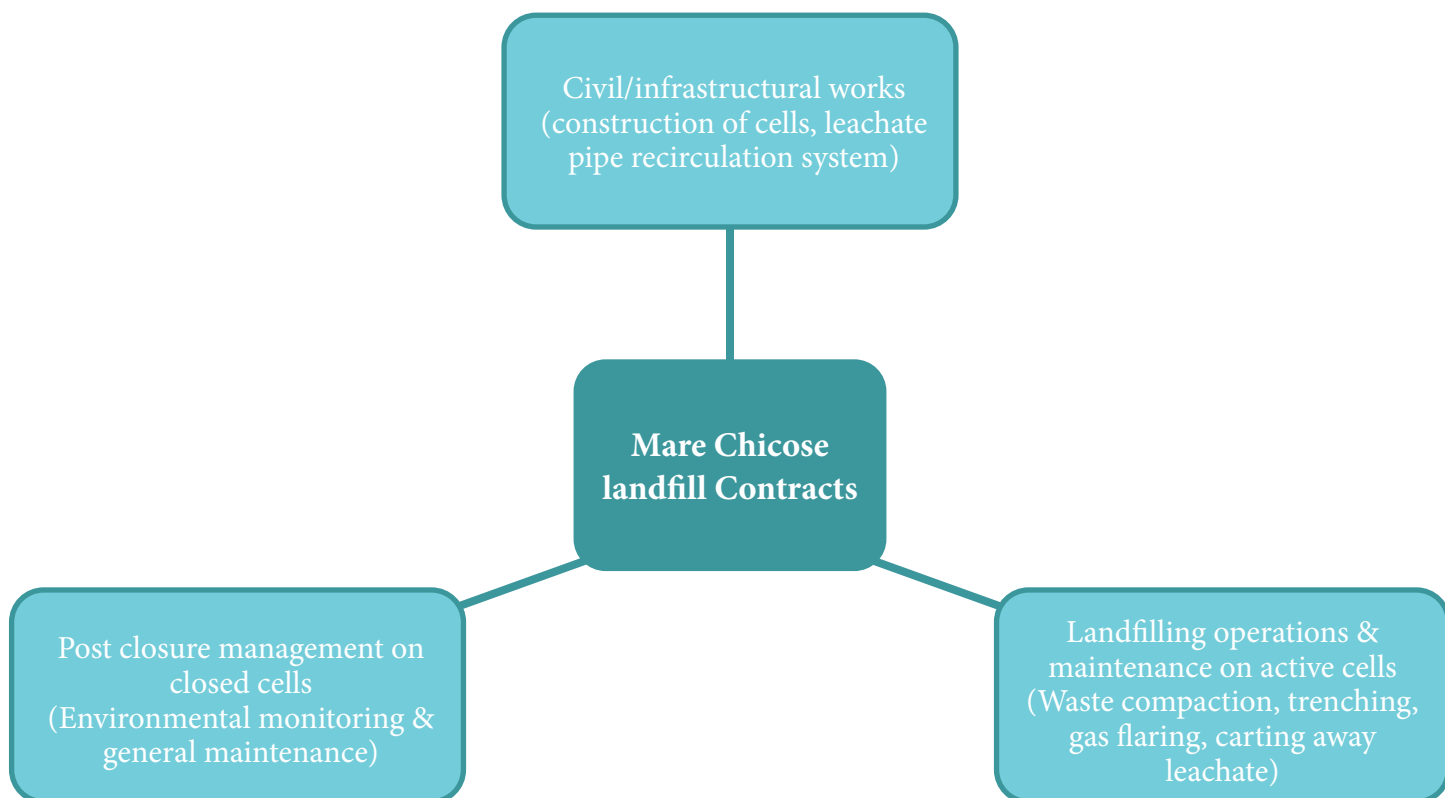


Figure 5: Overview of the Mare Chicose landfill contracts

### Achievements for the period of July 2020 – June 2021

ACTIVITY	AMOUNT DESIGN
Wastes landfilled	507,992.42 tonnes
Trenched wastes	1,489.92 tonnes
Landfill gas extracted	12,653,938.00 Nm <sup>3</sup>
Landfill gas flared	1,235,413 Nm <sup>3</sup>
Landfill gas used to produce electricity	11,418,525 Nm <sup>3</sup>
Estimated green electricity produced	20,761 MW

Table 5: Landfilling operations for period July 2020 to June 2021

**Note:** Revenue to Government is generated from trenched wastes as waste generators have to pay an amount of Rs 850/ton for disposal of trenched wastes.

### Construction of Cell 9

In light of the delays encountered for the Landfill Vertical Expansion project, additional void space had to be created to ensure continuity in the safe disposal of solid wastes. In this regard, a new Cell, namely Cell 9 located at the North-West of the site, over an area of about 6000m<sup>2</sup>, has been developed. The new Cell 9 is expected to be operational by December 2021 and it is estimated to provide disposal capacity for at least six months.

## 2. Operation and Management of Transfer Stations

The following five Transfer Stations are operated in Mauritius,:

1. La Laura Transform Station
2. Poudre D'Or Transform Station
3. La Brasserie Transform Station
4. La Chaumière Transform Station
5. Roche Bois Transform Station

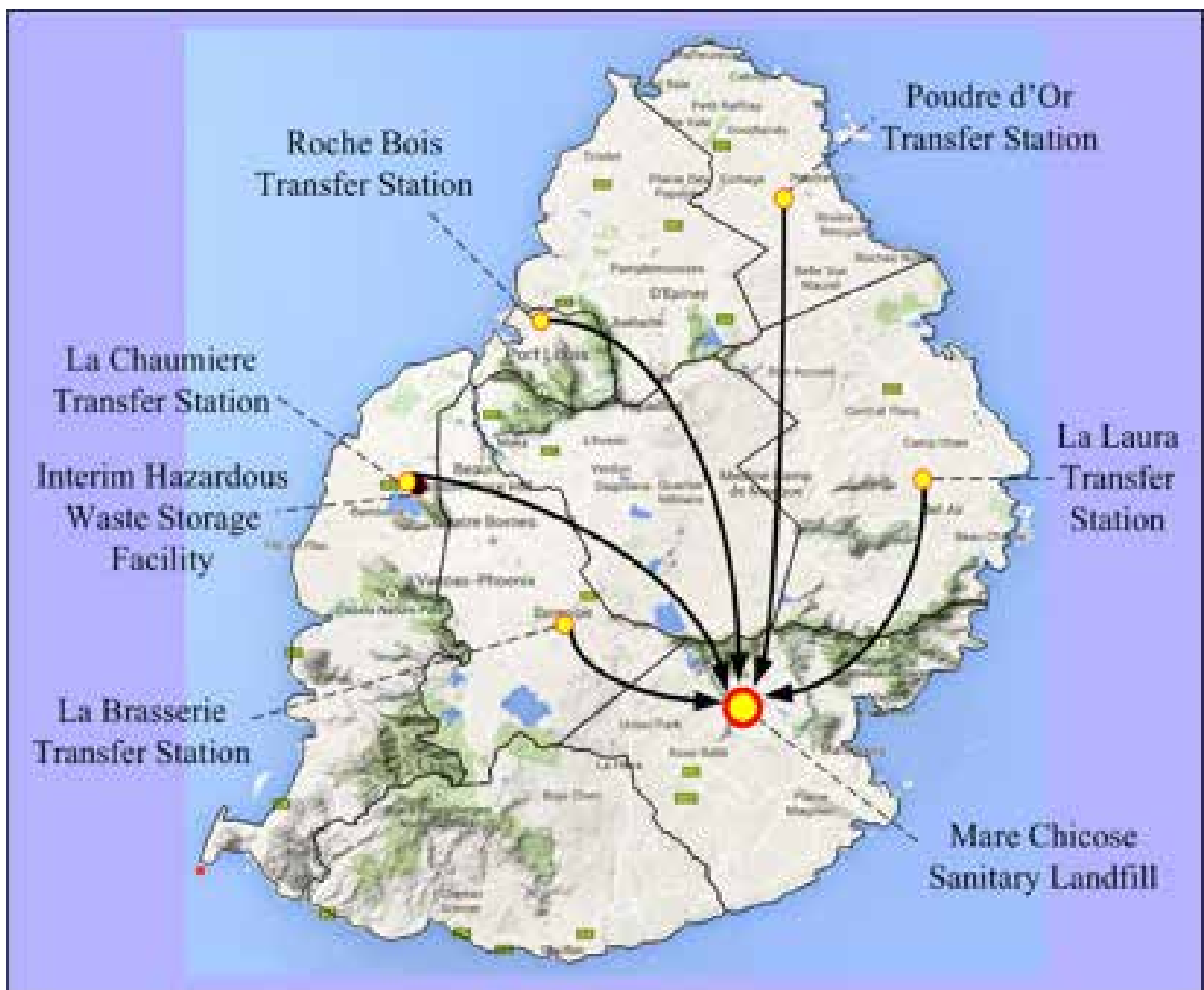


Figure 6: Location of Transfer Stations and Landfill in Mauritius

Household wastes from Municipal Councils and District Councils are transferred to the five Transfer Stations where they are placed in long truck trailers for final disposal at the Mare Chicose Landfill. It should be noted that wastes collected in the southern part of Mauritius are directly transferred to the landfill.

The amount of wastes transported for period 1 July 2020 to 30 June 2021 are summarised in Table 5.

TRANSFER STATION	DAILY RECEPTION CAPACITY (TONS)	AMOUNT TRANSPORTED TO MARE CHICOSE LANDFILL (TONS)
Roche Bois	275	101,266
La Chaumière	500	117,955
La Laura	125	49,847
La Brasserie	250	91,241
Poudre D'Or	180	70,546

*Table 6 : Wastes transferred to and from the Transfer Stations*

### *3. Operation and Maintenance of Interim Hazardous Waste Facility*

As part of its strategy for hazardous waste management and in its capacity as enforcing agency for hazardous wastes and the competent authority for the Bamako and Basel Conventions in Mauritius, the Solid Waste Management Division has set up an Interim Storage Facility for Hazardous Wastes at La Chaumière, Bambous.



*Figure 7: Interim Storage Facility for Hazardous Wastes*

The facility, which is operated by Polyeco S.A, started operations on 24 April 2017 and has provided the necessary infrastructure for the receipt, regrouping, repackaging and safe storage of hazardous chemical waste collected from hazardous waste generators all around the island prior to their exportation for recovery and disposal to licensed facilities in Europe.

The facility has been designed to receive hazardous chemical wastes such as laboratory and industrial chemical wastes (acids, alkalis, heavy metals, spent organic solvents, organic sludges), paint wastes, obsolete pesticides, pharmaceutical wastes, waste gas cylinders and waste aerosols, amongst others, which cannot be disposed of locally.

#### *List of prohibited wastes at the facility*

Municipal solid wastes, non-hazardous industrial wastes, radioactive wastes, explosive wastes, infectious healthcare wastes, and E –waste.

#### *Achievements for financial year 2020-2021:*

No. of applications received from hazardous waste generators for disposal of wastes: **82**

No. of inspections carried out by Contractor: **79**

Total weight of hazardous wastes collected by Contractor: **127.2 tonnes**

TYPE OF HAZARDOUS WASTES	WEIGHT (TONNES)
Expired medicines	44.9
Waste Aerosols	0.5
Waste Pesticides	0.5
Chemical waste	5.70
Laboratory waste	8.7
Paint related wastes	27.5
Waste Filters	0.9
Contaminated soil	38.5
Total	127.2

Table 6 : Types & amount of hazardous waste collected



Amount of hazardous wastes exported = 136 tonnes

TYPE OF HAZARDOUS WASTES	WEIGHT (TONNES)	COUNTRIES OF DESTINATION
Expired medicines	77	Belgium, France, Greece, Netherlands
Waste Aerosols	6	
Waste Solvent & paint material	42	
Chemical waste	9.3	
Laboratory waste	1.7	
TOTAL	136	

Table 7: Types and amount of hazardous wastes exported by Polyeco

#### *4. Management and Disposal of HFO-Contaminated liquid, solid and sludge wastes from MV Wakashio Oil Spill*

Following the MV Wakashio oil spill on 06 August 2020, HFO-contaminated liquid, solid and sludge wastes generated from the clean-up operations had to be disposed of. These wastes are classified as hazardous wastes under the First Schedule of the Environment Protection (Standards for hazardous wastes) Regulations 2001.

The Solid Waste Management Division, being the enforcing agency for hazardous wastes, was responsible for the coordination, monitoring and supervision of the carting-away and disposal of wastes generated due to the oil spill and during the clean-up operations.



**MV Wakashio Oil Spill**

Contractors appointed for the clean-up operations and carting away of wastes by the Insurance Company (Japan P&I Club):

- (1) Floch Depollution and
- (2) Polyeco SA





HFO Contaminated liquid and pumpable sludge were disposed to registered oil recyclers, namely Ecofuel Ltd and Virgin Oil (Mauritius) Co. Ltd.

As regards HFO contaminated solid and non-pumpable sludge, in the absence of other licensed storage, recovery and disposal facilities locally, Polyeco S.A, the Contractor of the Interim Storage Facility for Hazardous Wastes at La Chaumière, was requested by the Ministry to arrange for their receipt at the facility.

### *Amount of Wastes Generated:*

#### *Liquid waste HFO (HFO and seawater pumped)*

**Amount:** 2,891 tonnes

**Carting Away:** To registered waste oil recyclers:

- Ecofuel Ltd → 2123 tonnes
- Virgin Oil (Mauritius) Co. Ltd → 768 tonnes

#### *Contaminated solid wastes and debris*

**Amount:** 2,714 tonnes

**Carting Away:** To the Interim Storage Facility for Hazardous Wastes at La Chaumière for interim storage and subsequent exportation to licensed facilities for disposal.

## 5. Construction of La Chaumière Civic Amenity Centre

With the view to shifting the waste management system from a plain 'take-make-use-dispose' to one that promotes circular economy, the transfer stations are being upgraded to provide for an annexed Civic Amenity Centre (CAC). This component extends over an area of about 600m<sup>2</sup> and is meant to provide an outlet for collectors as well as to individuals and companies to dispose of their recyclable wastes.

On the other hand, appointed registered recyclers will be able to collect uncontaminated materials for their respective businesses. The CAC at La Chaumière is operational since 18 November 2020.



Figure 8: La Chaumière Civic Amenity Centre

The table below shows the types and amount of waste collected for period November 2020 to June 2021:

SN	TYPES OF WASTE	QUANTITY
1.	Construction & Demolition	361,880 kgs
2.	Metal	6,280 kgs
3.	Wood	45,543 kgs
4.	PET	460 kgs
5.	Carton	3,120 kgs
6.	Tyres	214,067 kgs
7.	E-waste	77,807 kgs
8.	Used oil	530 lts
9.	Batteries	60 kgs
10.	Tubes	259 units

Table 9: Amount of waste collected at La Chaumière CAC

## **6. Asbestos Treatment Programme**

The Solid Waste Management Division is also responsible for the dismantling, removal and carting away of asbestos housing units.

Within this financial year, **59** Housing units containing asbestos have been demolished upon requests from their owners.

## **7. Waste Carriers Licensing Unit**

The Waste Carriers Licensing Unit is responsible for the enforcement of the Local Government (Dumping and Waste Carriers) Regulations 2003. This unit receives and processes applications for waste carriers licences and examines the fitness of vehicles to carry waste, other than hazardous waste.

For the period July 2020 to June 2021:

- **1447** waste carriers' licences were issued, out of which 783 were owned by the local authorities and government bodies and 664 pertained to individuals, private companies and parastatal bodies.
- Revenue: **Rs 664,000.**
- **4** contraventions have been established under the Regulations.
- Number of site visits effected to registered automobile Workshops: **52**

## 8. *Cleaning of Public Beaches and Toilets*

The Ministry provides cleaning and maintenance services to 65 public beaches through service-based Contracts. The Contracts are awarded for a period of 36 months and are renewable annually based on satisfactory performance of the Contractor. The beaches are lumped into lots as follows:

SN	CONTRACT	LIST OF BEACHES AND TOILET BLOCKS
1	Main Beaches Lot 1	Mon Choisy, La Cuvette, Pereybere, Grand Bay, Trou aux Biches (opposite police station), Trou aux Biches (opposite ex-aquarium)
2	Main Beaches Lot 2	Belle Mare and Palmar main beaches;
3	Main Beaches Lot 3	Blue Bay and La Cambuse
4	Main Beaches Lot 4	La Preneuse, Flic en Flac/Wolmar (including Villa Caroline), and Tamarin;
5	Secondary Beaches Lot 1	Le Goulet, Bain Boeuf, Cap Malheureux, Pas Géométriques Union Ribet, Anse La Raie, Butte à L'Herbe and Grand Gaube
6	Secondary Beaches Lot 2	Poste Lafayette (near Toilet Block), Bras D'Eau, Palmar (near Surcouf), Quatre Cocos Village, Trou d'Eau Douce (main beach), Bambous Virieux (3 lots), Bois des Amourettes (Popular Beach) and Bois des Amourettes (3 lots -Public Beach).
7	Secondary Beaches Lot 3	Le Bouchon, Terracine, Gris Gris, Telfair Garden, Batelage (Popular Beach), Surinam, SSR Beach (near Souillac Cemetry), Pomponette, St Felix, Riv des Galets/ Ile St Marie, Bel Ombre, PG Bel Ombre and Riambel. Toilet Blocks: Bel Ombre & la Prairie
8	Secondary Beaches Lot 4	La Prairie, Pas Géométriques L'Embrasure, Le Morne Brabant (Trou Chenille), Pas Géométriques Le Morne (Pte Sud Ouest), Pas Géométriques Le Morne (between Berjaya and Les Pavillons), Pas Géométriques Le Morne (nr Dinarobin), Baie du Cap, Maconde View point (popular beach)
9	Secondary Beaches Lot 5	Wolmar, P.G Albion (main beach), Petit Verger (Tilac) popular beach, Petit Verger (La Pointe), Pte aux Sables (main beach), PG Anna, P.G Mon Plaisir, Pointe aux Sables (Near Fisheries Post and Training Centre), Pointe aux Sables (Near Martello), Sables Noir, Bain Des Dames popular beach. Toilet Blocks: Sables Noir & Bain Des dames only
10	Toilet Blocks Lot 1	Le Goulet, Bain Boeuf, Cap Malheureux, PG Union Ribet, Anse La Raie, Butte a L'Herbe, Grand Gaube (New integrated beach), Pte aux piments (Nr Parking), Pte aux Piments (Nr cemetery)
11	Toilet Blocks Lot 2	Poste Lafayette (nr Toilet block), Bras D'Eau, Trou d'Eau Douce (Four à Chaux), Trou D'Eau Douce (Débarcadère)
12	Toilet Blocks Lot 3	Le Bouchon, Gris Gris, Telfair Garden (Souillac), Batelage, Riambel (SSR Beach), St Felix (Pte aux Roches), Baie du Cap and Rivière des Galets

SN	CONTRACT	LIST OF BEACHES AND TOILET BLOCKS
13	Toilet Blocks Lot 4	P.G Le Morne (near Dinarobin), P.G Le Morne (between Berjaya and Les Pavillons), P.G Sud Ouest Le Morne, Wolmar, PG Albion Main beach, Petit Verger Tilac, Albion (Mon Plaisir), Petit Verger (La Pointe), PG Anna (Flic en Flac), Pte aux Sables (main Beach), Pte aux sables (Nr Fisheries Centre)
14	Toilet Blocks Lot 5	Grand Gaube, PG Melville, Poudre d'Or, Roches Noires and Pointe des Lascars
15	Toilet Blocks Lot 6	Palmar Public Beach (Near Palmariaie Hotel), GRSE, Rivière des Créoles, Bois des Amourettes, Old Grand Port Public Beach and Petit Sable Public Beach (Portion 2).

*Table 9: List of public beaches and toilet blocks maintained by the SWMD*



*Figure 9: Clean beach at Palmar*

## STATUS ON IMPLEMENTATION OF BUDGET MEASURES

In the Budget Speech 2020-2021, four measures were announced by the Minister of Finance, Economic Planning and Development pertaining to waste management. The table below depicts the status of those Budget Measures:

PARAGRAPH IN BUDGET SPEECH	MEASURE ANNOUNCED	STATUS AS AT 30 JUNE 2021
247 (a)	Eco-bins to be made available at strategic places across the island for collection of plastic wastes	Project kept in abeyance as a new framework is being worked out for collection of post-consumer PET bottles.
247 (b)	Setting up of a network of Civic Amenity Centres ('déchetteries') at the five Transfer Stations	<p>A Civic Amenity Centre has been constructed at La Chaumière Transfer Station and is operational since November 2020.</p> <p>A second Civic Amenity Centre has been constructed at La Laura Transfer Station. Same will be operational as soon as the road upgrading works are completed.</p>
247 (c)	Encourage segregation of waste at source	With the coming into operation of the Civic Amenity Centres, households, industries and companies are encouraged to practice segregation of wastes in line with the circular economy.
247 (e)	A feasibility study will be conducted on the construction and operation of sorting units on a PPP basis at Forbach and La Chaumière	The feasibility study has started and it is expected that the final feasibility report will be submitted by the end of July 2021.

*Table 11: Status on Implementation of Budget Measures*

## STATUS ON IMPLEMENTATION OF KEY ACTIONS AND KEY PERFORMANCE INDICATORS

The table below shows the status of the key actions and key performance indicators which were included in the Budget 2020/2021.

KEY ACTION	KEY PERFORMANCE INDICATOR	TARGET	ACHIEVEMENT	STATUS AS AT 30 JUNE 2021
Promote waste recycling	Percentage of waste diverted from landfill	7%	3%	The recycling industry has been impacted by the Covid 19 pandemic ensuing national lockdown and closing of borders which have limited recycling/exportation of wastes.
	Number of Civic Amenity Centres operational	2	1	<p>A Civic Amenity Centre is operational at La Chaumière Transfer Station since November 2020.</p> <p>A second Civic Amenity Centre has been constructed at La Laura Transfer Station. Minor road upgrading works are being effected thereat. The Civic Amenity Centre will be operational as soon as the works are completed.</p>

*Table 12: Status on implementation of key actions*

## IMPLEMENTATION PLAN-DIRECTOR OF AUDIT

SN	ISSUES/DOA COMMENTS	PROPOSED MEASURES	STATUS OF ACTIONS TAKEN AS AT 30 JUNE 2021
1.	<p><b>Significant costs to Government for solid waste disposal</b></p> <p>During the last four financial years, expenditure has varied between Rs 683 million and Rs 797 million, giving an annual average cost of Rs 738.3 million.</p>	<p>It is to be noted that the cost of labour, diesel, spare parts and forex has increased significantly.</p> <p>To review the hours of work for beach cleaning contracts when new bidding documents will be prepared.</p>	<p>The contracts would be amended to reflect a decrease in the number of hours of work for cleaning of beaches.</p>
2.	<p><b>Inefficient solid waste disposal process</b></p> <p>The annual cost to Government for solid waste disposal could be significantly reduced by segregation of solid wastes at source of generation thus facilitating their recycling by economic operations and diverting waste from landfill.</p>	<p>A new Solid Waste Management Strategy has been prepared with focus on source segregation, waste composting and recycling.</p> <p>It is expected that waste segregation at source will be implemented by 2024.</p>	<p>A feasibility study is currently being carried out on the setting up of regional composting plants and sorting units and the implementation of waste segregation at source. The final feasibility study report is expected by the end of July 2021.</p>
3.	<p>Critical deficiencies in the IT system for Weighbridges at Transfer Stations and Landfill.</p>	<p>As the IT system dates to nine years, it is proposed to acquire a new weighbridge software and hardware, including annual maintenance agreements.</p>	<p>The specifications for the bidding exercise have been prepared in consultation with the Central Informatics Bureau and the observations of the Director of Audit have been taken on board.</p> <p>The bidding exercise will be launched shortly.</p> <p>An IT Steering Committee will be set up to monitor the implementation of the project</p>



SN	ISSUES/DOA COMMENTS	PROPOSED MEASURES	STATUS OF ACTIONS TAKEN AS AT 30 JUNE 2021
4.	Overclaim of Rs 10.9 million by contractor at Mare Chicose Landfill.	Monitoring of operations at the landfill to be reinforced.	<p>Approximately Rs 14 million has already been deducted from the payments due to the contractor following irregularities which have been observed in leachate management</p> <p>The matter has been reported to the Police and close follow-up is being carried out.</p> <p>The advice of the Ministry of Finance, Economic Planning and Development has been sought.</p> <p>At the request of this Division, the Consultant has deployed additional staff on site for supervision and performs random checks at least thrice weekly independently from the Weighbridge to identify any anomaly/outlier in the Weighbridge records.</p> <p>The leachate data are checked with the Wastewater Management Authority tickets. Leachate amount is deducted from the IPC in case tickets are missing</p> <p>Pending the implementation of the CCTV camera system, Technical Enforcement Officers of this Division are effecting, since January 2021, daily full-day (09hr-16hr) site visits at the landfill on a roster basis. In addition, once per week, Technical Enforcement Officers also effect 'special squad' visits, which are carried out after the closure of the landfill.</p>
5.	Non-availability of Contract Documents for Payments of Rs 574.2 million.	All the contract documents would henceforth be filed and kept in the custody of the Confidential Registry.	Implemented.

SN	ISSUES/DOA COMMENTS	PROPOSED MEASURES	STATUS OF ACTIONS TAKEN AS AT 30 JUNE 2021
6.	Cleaning of Public Beaches - No formal agreement with Beach Authority	It is proposed to sign a Memorandum of Understanding with the Beach Authority whereby the role and responsibilities of each party will be clearly defined for the cleaning of public beaches, including the toilet blocks located thereat.	A draft Memorandum of Understanding has been sent to the Beach Authority for comments prior to vetting by the State Law Office.
7.	Operation of Transfer Stations - Lack of control over payments.	The existing payment procedures are being further reinforced and a protocol being devised shortly.	Records for waste leaving the transfer station and the waste reaching the Mare Chicose Landfill are verified using the weighbridge software. Payments are effected on the lowest tonnage of wastes transported by the Contractors of the Transfer Stations.
8.	Operation of Mare Chicose Landfill - Lack of control over payments.	The existing payment procedures and protocol will be reviewed and further reinforced.	The records for landfilling of wastes are checked by the Consultant prior to certifying same.

*Table 13: Implementation Plan – Director of Audit*



**PART III**  
**FINANCIAL PERFORMANCE**

## Financial Highlights

The Solid Waste Management Division operates under the aegis of the Ministry of Environment, Solid Waste Management and Climate Change (Vote 12 -1).

Appropriation of funds for the Solid Waste Management Division was made under Sub-Head 12 -105 - 'Solid and Hazardous Waste and Beach Management'.

## Analysis of Major Changes

The Budget provision for Financial Year 2020-2021 was Rs 637.6 million compared to Rs 735.8 million for financial year 2019-2020.

The decrease is mainly due to the transfer of the grant for the Beach Authority to the Department of Environment and Climate Change.

The Actual Expenditure incurred for financial year 2020-2021 was Rs 632.5 million representing 99.2% of the total provision for the year.

## Expenditure

The expenditure of the Solid Waste Management Division (SWMD) is predominantly constituted of Goods and Services, in particular Cleaning Services amounting to Rs 573.2 million for financial year 2020/2021.

## Statement of Expenditure

The Statement of Expenditure has been prepared from data captured from the Treasury Accounting System (TAS). The table below provides a summary of the total expenditure incurred by the Solid Waste Management Division under Sub Head 12-105 - Solid and Hazardous Waste and Beach Management.

HEAD/SUB-HEAD OF EXPENDITURE	2019-2020 ACTUAL RS'000	2020-2021 ESTIMATES RS'000	2020-2021 ACTUAL RS'000
12-105 Solid & Hazardous Waste and Beach Management			
COMPENSATION OF EMPLOYEES	28,149	37,145	32,984
Goods and Services	593,475	592,790	597,743
Grants	61,376	1,065	1,061
Other Expenses	-	3,400	-
ACQUISITION OF NON-FINANCIAL ASSET	280	3,200	712
<b>TOTAL</b>	<b>683,200</b>	<b>637,600</b>	<b>632,500</b>

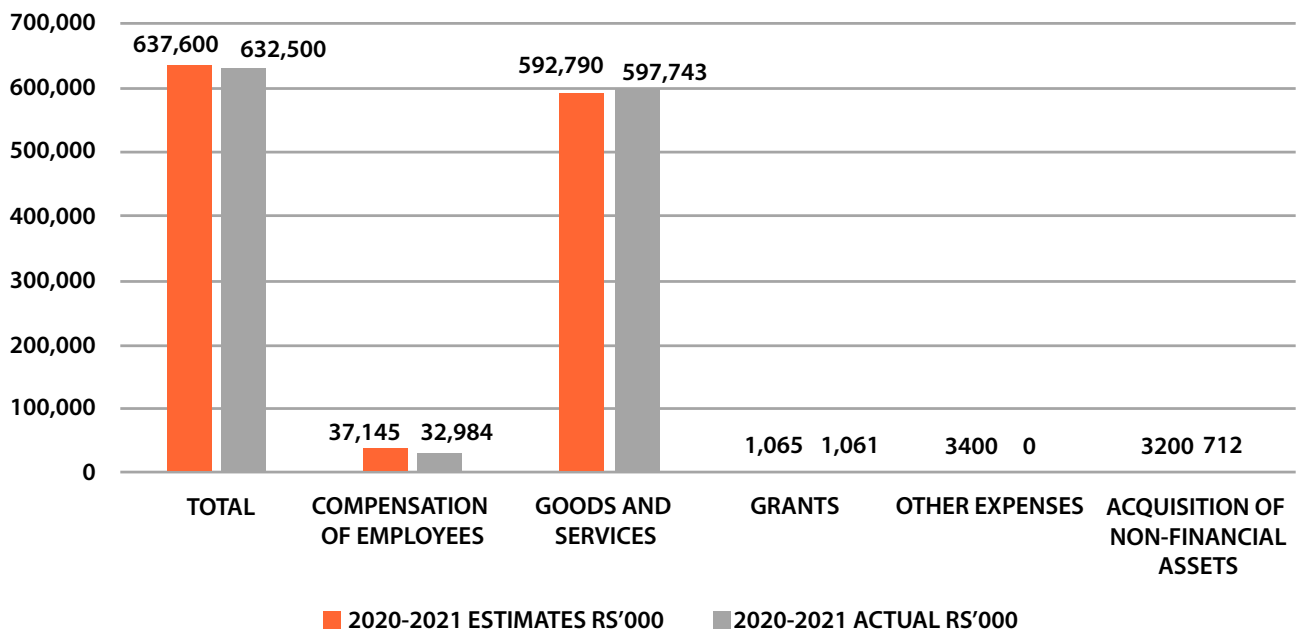


Figure 10: Statement of Expenditure

## Revenue

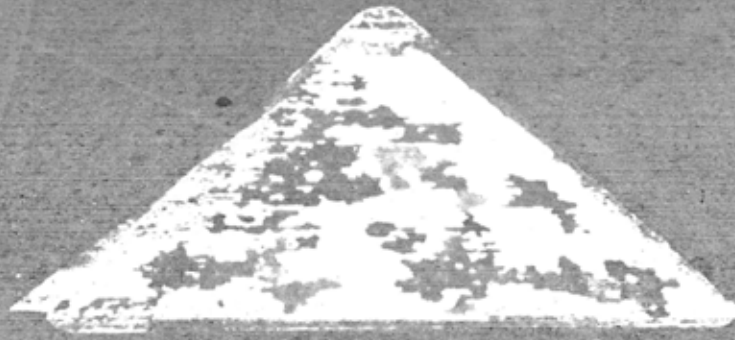
The revenue collected by the Solid Waste Management Division for financial year 2020-2021 constitutes of Disposable Fees amounting to Rs 13,751,902.56.

## Expenditure Under the National Environment Fund

SN	PSIP CODE	SOLID WASTE MANAGEMENT PROGRAMME	Actual 2019/2020 Rs 000	Estimates 2020/2021 Rs 000	Actual 2020/2021 Rs 000
1	D0053	Construction of Solid Waste Disposal Facilities at Mare Chicose Landfill		114,000	57,129
	D005303	Cell 7	30,142	100,000	42,395
		Consultancy Services for Vertical Expansion of the Landfill Sites	32,188	14,000	14,734
2	D016899	Asbestos Treatment Programme in Ex CHA Houses	2,357	5,000	4,915
3	D018799	Setting up of Civic Amenity Centres / Dechetteries	1,168	10,000	2,445
4	D018899	Setting up of Scrapyard Facility for End of Life Vehicles	-	7,000	-
5	D021999	Sorting Units at Forbach & La Chaumiere (Study)	-	4,000	-
6	D017401	Waste Recycling Programme (including Collection of PET bottles)	-	6,000	-
		<b>TOTAL</b>	<b>65,855</b>	<b>146,000</b>	<b>64,489</b>

Table 14: Expenditure under the National Environment Fund





PART IV  
WAY FORWARD

## Trends and Challenges

The SWOT analysis below highlights the characteristics of the Solid Waste Management Division and its operating environment.

<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><i>Strengths</i></p> <p style="font-size: 2em; font-weight: bold; color: #008080;">S</p>	<ul style="list-style-type: none"> <li>• A structured solid waste management framework with a network of five transfer stations and a sanitary landfill.</li> <li>• 100% waste collection coverage in Mauritius.</li> <li>• Proper landfill gas management and leachate collection system.</li> <li>• Landfill gas conversion to renewable electricity.</li> <li>• An interim hazardous waste storage facility for the environmentally sound management of hazardous wastes.</li> <li>• A civic amenity centre for the separate collection of waste materials for recycling.</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><i>Weaknesses</i></p> <p style="font-size: 2em; font-weight: bold; color: #008080;">W</p>	<ul style="list-style-type: none"> <li>• Low to non-existent source segregation of solid organic wastes practices.</li> <li>• Low to non-existent recovery of solid organic wastes.</li> <li>• Low or inadequate incentive to recycling companies.</li> <li>• Not enough sensitisation and education campaigns on the impacts of mismanagement of solid wastes.</li> <li>• Regulations not comprehensive and outdated.</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><i>Opportunities</i></p> <p style="font-size: 2em; font-weight: bold; color: #008080;">O</p>	<ul style="list-style-type: none"> <li>• Implementation of source segregation of wastes through provision of separate bins.</li> <li>• Solid waste management technologies for processing of solid wastes, such as composting and sorting units.</li> <li>• Renewable energy production from anaerobic digestion of organic wastes.</li> <li>• Reduction of greenhouse gas emissions through composting and anaerobic digestion processes.</li> <li>• Creation of specialised and green jobs in composting and biogas plants.</li> <li>• Ecological transition from linear to circular economy.</li> </ul>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"><i>Threats</i></p> <p style="font-size: 2em; font-weight: bold; color: #008080;">T</p>	<ul style="list-style-type: none"> <li>• Loss of high valuable solid wastes.</li> <li>• Further greenhouse gas emissions from decomposition of solid organic wastes.</li> <li>• Saturation of the Mare Chicose sanitary landfill, with limited land space.</li> <li>• Solid waste disposal emergency situation in the future.</li> </ul>



## Strategic Direction

In view to ensuring the environmentally safe and sound management of solid and hazardous wastes while shifting towards a circular economy approach in the solid waste management sector, the Solid Waste Management Division has defined its Strategic Direction with the following enablers:

### Strategic Direction Enablers

<i>Ensure optimum use of the landfill</i>	<ul style="list-style-type: none"><li>• Optimise landfill capacity through expansion of disposal area</li></ul>
<i>Promote a culture of recycling</i>	<ul style="list-style-type: none"><li>• Upgrade the network of transfer stations into Civic Amenity Centres or “dechetteries”.</li><li>• Encourage private sector participation to Reduce, Reuse, Recycle and Recover (4R) waste to reduce landfilling.</li><li>• Promote a circular economy in the waste sector.</li><li>• Set up an Extended Producer Responsibility system for electrical and electronic equipment.</li></ul>
<i>Ensure the environmentally safe management of hazardous wastes</i>	<ul style="list-style-type: none"><li>• Review and strengthen the enforcement of the Environment Protection (Standards for Hazardous Wastes) Regulations 2001.</li><li>• Organise sensitisation and awareness campaigns on the health impacts and environmental risks of hazardous wastes.</li></ul>

DESIGN: GOVERNMENT PRINTING DEPARTMENT 2022

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