

# **Overview of Wastes Management in Mauritius**

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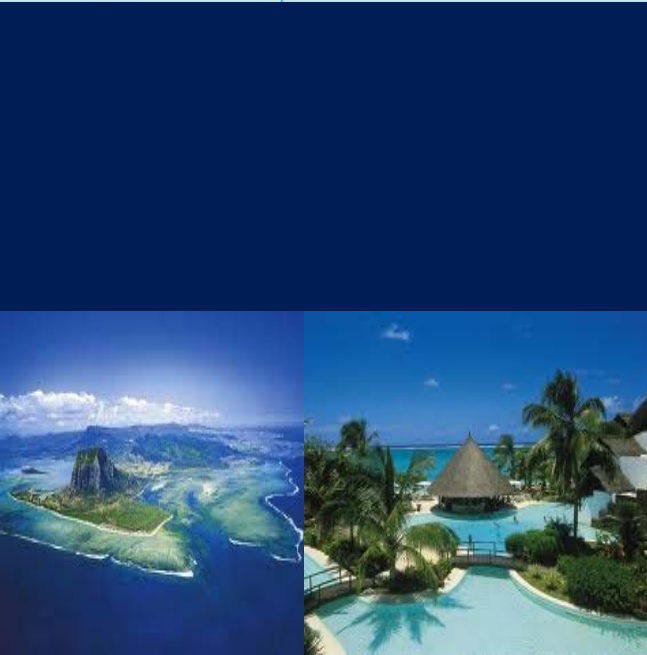
Composting



Hazardous Waste Management

# Mauritius....

- Mauritius is a small island developing state (SIDS) found in the southwest Indian Ocean, about 900 kilometres east of Madagascar



# Some Fact & Figures About Mauritius

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- ⌘ Mauritius is very small .(2000 km<sup>2</sup>)
- ⌘ Independence : 12 arch 1968
- ⌘ **Population : 1,284,264 ( july 09) ( 650/km<sup>2</sup>)**
- ⌘ **Population growth : 1.1 - 1.2%**
- ⌘ Urban Population : 44%
- ⌘ Asian origin: 68%, African origin; 27%, Sino-Mauritian 3%, Franco-Mauritian 2%
- ⌘ Official language : English ( least spoken)
- ⌘ Literacy Rate: 86 %

Mtius is a Small Island Developing State.

⌘ **Economy** based on Tourism, Financial Services, Textile Industry, Sugar Export.

⌘ **Characteristics common to SIDS include:**

⌘ Remoteness from economic poles

⌘ Limited land space & Scarce resources

⌘ High population density


⌘ High degree of dependence on imports

⌘ Poor resilience to external shocks –  
EUROZONE

⌘ Fragile ecosystem compounded by natural calamities - Severe Cyclones , floods, sea level rise due to climate change

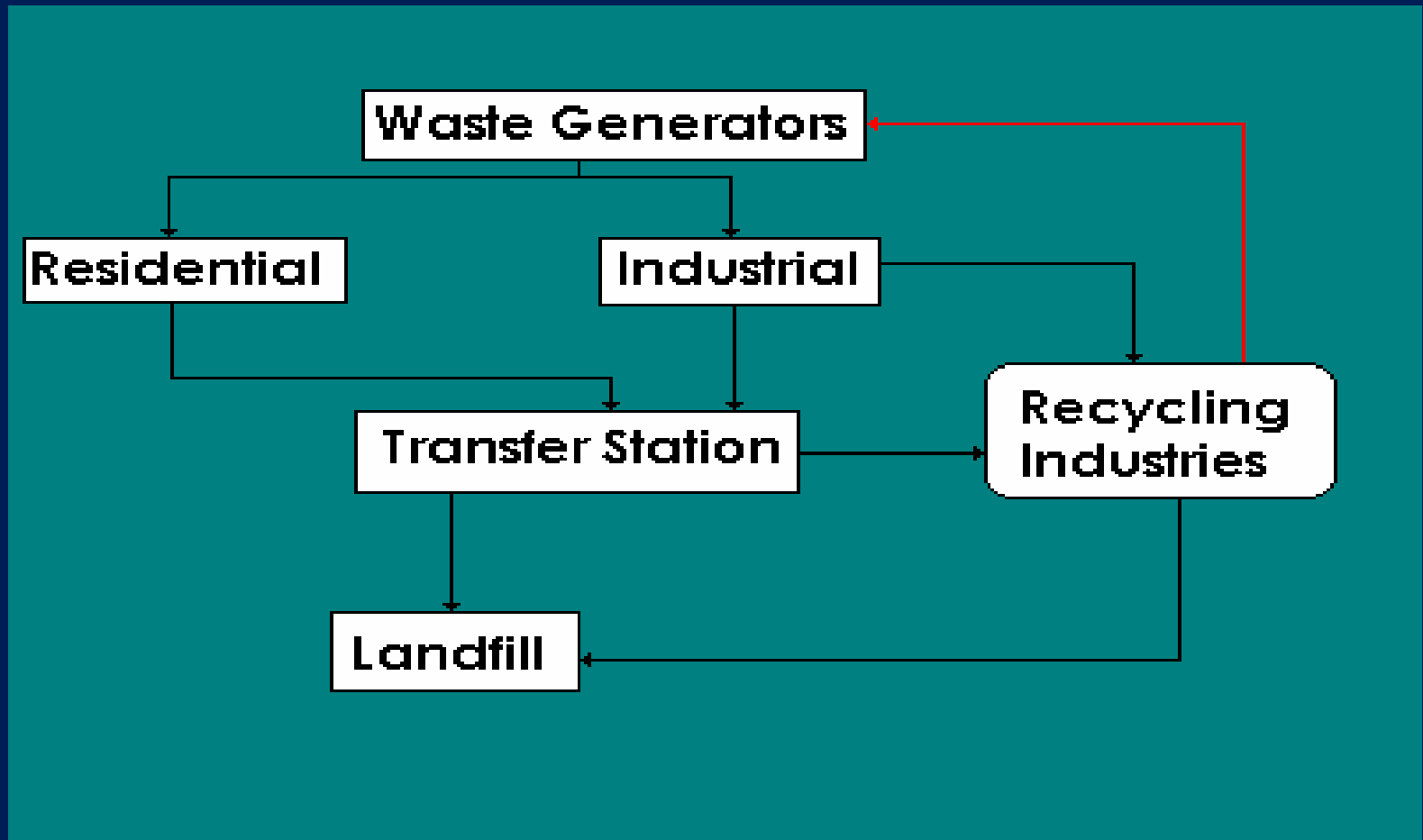
# Strategies

## ✦ Vision



✧ To contribute to sustainable use of natural resources

✧ Enhance the lifestyle, economy and environment of the country



Current Solid Waste Management  
System





# WASTE MANAGEMENT BEFORE YEAR 1997

- ⌘ Dumpsites were natural depressions
- ⌘ Waste was placed and compacted in some of the dump sites
- ⌘ Most of the time the dumpsites were under fire
- ⌘ No record of incoming waste was kept
- ⌘ Only estimates available prior to 1997
- ⌘ Pollution of ground water and aquifer



# Current Situation of Waste Management

## & Amount of Wastes Landfilled

❧ In 2008: 398,070 tonnes

❧ In 2009: 413,236 tonnes

❧ In 2010: 427,000 tonnes

❧ In 2011: 414,000 tonnes

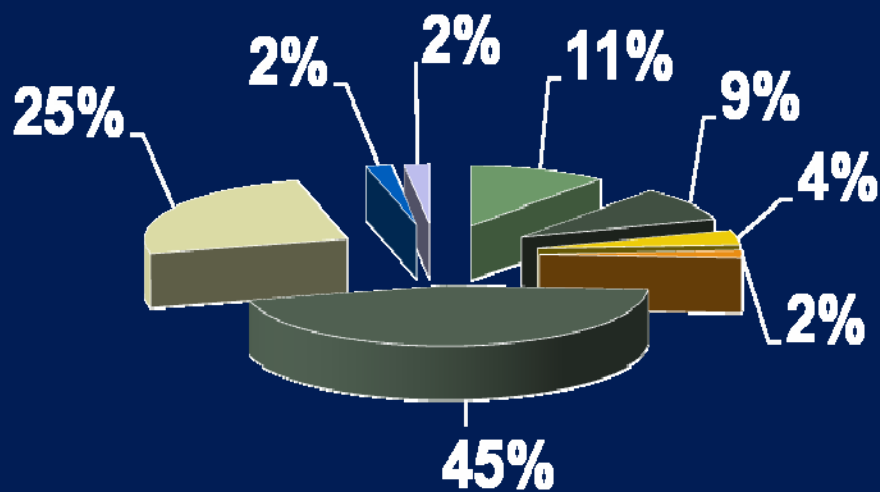


# Costs of Solid Waste Management



- In 2009 was nearly MUR 1,069 million (USD \$ 35.6 million) that is nearly MUR 832 (USD \$ 27.7) per capita and MUR 2515 (USD \$ 83) per Tonne
- Increase expected in view of:
  - Types of collection (source separation / mixed)
  - Transportation (Price of fuel etc...)
  - Disposal Technologies (Landfilling / Incineration)

BUT THE STRATEGY IS BRING DOWN COST!!!




- Plastic
- Paper
- Textile
- Metals
- Yard
- Domestic Refuse
- Others
- Glass

# Composition of Solid Waste



# ✦ Strategic Goals

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- Goal 1 . Additional Infrastructure and Services
  - Goal 2 . Improvements in cost effectiveness
  - Goal 3 . Improve Partnership
  - Goal 4 . Improve Institutional and legal set up
  - Goal 5 . Market Development to promote reuse and recycling

# Goal 1: Additional Infrastructure and Services

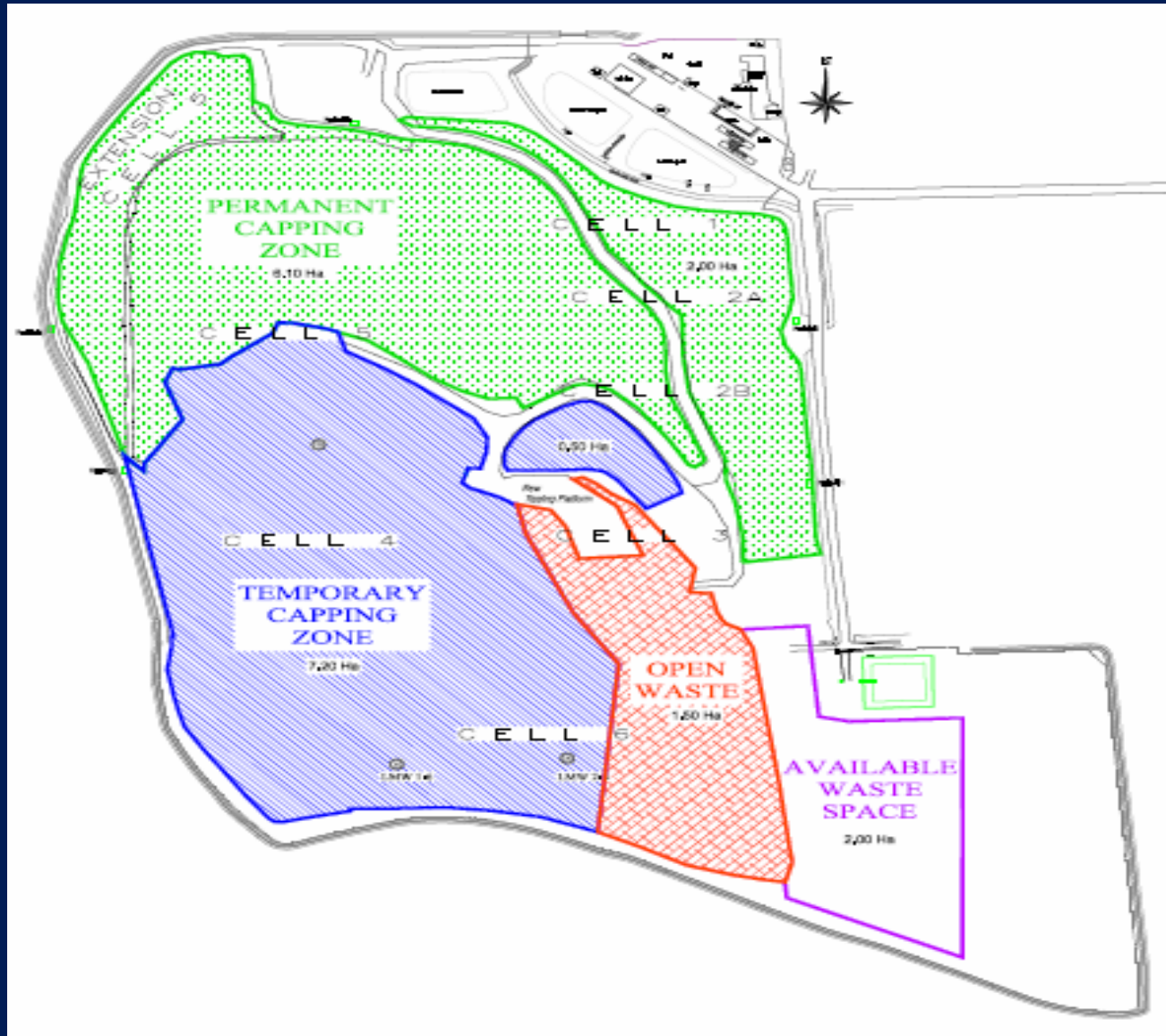
- ⌘ Waste collection
  - ⌘ Transfer Facilities Network
  - ⌘ Additional disposal capacity
  - ⌘ Hazardous waste interim storage facility
  - ⌘ Civic amenity centres
  - ⌘ Composting plants
- 





# Mare Chicose Sanitary Landfill







# Contractual Arrangements

‣ Solid Waste: disposal in a sanitary landfill (since 1997) with clay + double HDPE line ( 1.5 mm), leachate collection system, flaring of landfill methane gas and final cover + post closure management Environmental , Surface & Ground water Monitoring. Now Gas to Energy

‣ Hazardous waste:

‣ haz waste cell for some solid haz waste – encapsulation in concrete



# Waste disposal & compaction







# Sanitary Landfill: A contained structure





# Welding & testing of Liner







# Gas well drilling







# Gas capture & flaring





# LANDFILL GAS TO ENERGY ENGINES







# Construction Capping, grassing & surface water drain







**THIS IS NOT  
SUSTAINABLE:  
WHAT'S THE WAY  
FORWARD**



# Market Development to promote Reuse and Recycling

## ◆ Status of Recycling In Mauritius

Presently, the materials that are being recycled are Paper, Plastic, Glass, Textile, Metals and some hazardous Wastes

# Barriers according to recyclers

- 
- ⌘ Lack of incentives from the Government.
  - ⌘ Lack of laws and regulations to control the illegal exportation of waste material
  - ⌘ High cost of collection and transportation of the wastes
  - ⌘ Lack of labour.
  - ⌘ Lack of awareness among the public.

# Some Options for Improving Recycling

& Legal instruments

& Economic instruments

& Increase public education

& Improve drop –off points in public places

& Implement Procurement guidelines for government purchase



# COMPOSTING PROJECTS

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- ‡ Government decided to supply 180,000 tons of unsorted waste to a private company for composting
- ‡ Two additional compost plants of capacity 130,000 tons and 30,000 tons is foreseen under Public Private Partnership project
- ‡ Around 70% will be diverted from landfill

# Hazardous Waste Management in Mauritius

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- Waste oil
  - Medical wastes
  - Obsolete pesticides
  - Used mobiles phones and batteries
  - Obsolete school chemicals
  - E-wastes
  - Mercury wastes
- Our present hazardous waste management system is currently deficient in terms of data on amounts of hazardous waste being generated, stored and disposed, enforcement of legislations and appropriate treatment/disposal infrastructure



# Policy on Hazardous Wastes Management

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- Minimize hazardous waste generation
- Encourage on-site recycling and treatment of hazardous wastes
- Encourage exchange of hazardous wastes
- Export of hazardous wastes

# Strategy

- To conduct a comprehensive national **inventory of hazardous waste**
- To develop and maintain a hazardous waste **database**
- To investigate **feasibility of on-site recycling/treatment** of hazardous wastes
- To devise and set-up **hazardous waste exchange schemes**
- To set-up an **interim storage facility** prior to exportation of hazardous wastes for treatment/disposal



# Hazardous Waste Management in Mauritius

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- Hazardous waste management in Mauritius is limited to the following practices:
  - Solid hazardous wastes **are not collected separately** but discharged with non-hazardous wastes
  - Liquid hazardous waste is discharged with the sewage water
  - Some hazardous waste stored at the premises of industries due to the lack of treatment/disposal facilities
  - In hospitals, hazardous waste is collected separately and incinerated in hospital incinerators

# Hazardous Waste Management in Mauritius

- Infrastructure for disposal of hazardous wastes is limited to a hazardous waste cell at the Mare Chicose Landfill, where only certain types of hazardous wastes are accepted.
- Hazardous waste cell of capacity 2,000 m<sup>3</sup> and equipped with double synthetic lining system to prevent groundwater contamination



# Education & Awareness

- **My Ministry has started working on Education and Sensitization campaigns with stakeholders including**
- **Central Level - Relevant Ministries**
- **Local Level**
  - Municipalities & district authorities
- **Waste Generators**
  - Residential, commercial, institutional, industrial, medical facilities
- **Operators**
  - Municipal and district councils solid waste service, and private operators private

*Thank you for your  
kind attention...*