

# CABRI

# PEER REVIEW WORKSHOP

on  
policy and funding strategies to improve  
**WASH** service delivery

PRESENTATION BY

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## General Information

The island of Mauritius is of volcanic origin. The volcanic activity of the island ended about 25,000 years ago.

- **Population:** 1.3 million
- **Area of Mauritius:** 1865 km<sup>2</sup>
- **Major Climatic Conditions:** Summer and winter
- **Annual Average Rainfall:** 2000 mm
- **Sources of Water Supply:** Surface water & ground water (Desalination of water in Mauritius and Rodrigues)

# History & Evolution of the Water Sector in Mauritius.

- Since independence (12 March 1968), there have been tremendous efforts to bring water to the homes of citizens and to create adequate water resources to supply the entire population.
- At the time of independence, a large segment of the population still had to collect water from public fountains and rivers and carry water over long distances to meet their daily needs.
- In March 1968, there were 48,605 private connections and 1,365 public fountains to serve a population of 767,900 inhabitants.
- In 2017, 99.7% of the population has access to piped, potable water at their premises. The number of water customers increased from 48,605 in 1968 to 359,951 in 2017. Mauritius today satisfies the sustainable development goals as regards access to clean water.
- This has necessitated an investment of more than Rs.10 Billion over the last 50 years (50,000km of distribution mains). Construction of treatment plants to ensure that water satisfied World Health Organisation standards for drinking water. Construction/upgrading of 26 service reservoirs for storage of water..Today, every household has access to water at his or her own premises at an affordable price.

# Water Resources and Water Quality In Mauritius

- Water is a precious gift of nature and is vital for the survival.
- Water plays a crucial role in the rapidly changing phase of our planet brought about by rapid development , rising population and fast rate of scientific and technological advance.
- Much emphasis is laid on the protection and conservation of our water resources.

## Institutes involved in WASH.

### **Ministry of Energy and Public Utilities**

The main activities of the Ministry revolve around the formulation of policies and strategies in the energy, water and wastewater sectors and the establishment of a responsive legal framework to govern the development of these sectors. The following institutions, falling within the purview of the Ministry are the executing arms with regard to water and sanitation.

## **Central Water Authority** (created in 1973 as a para statal body)

Responsible for treatment and supply of water for domestic, commercial and industrial purposes.

## **Water Resources Unit** (created in 1993 ad a Division of the Ministry)

Responsible for the assessment, mobilization, control, development, management and conservation of water resources.

## **Wastewater Management Authority**

Responsible for the collection and treatment of domestic, commercial and industrial wastewaters for disposal to an environmentally acceptable quality, ensuring the country's sustainable development through the provision of appropriate water pollution standards, wastewater control systems and management services to the entire population of Mauritius.



## Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Environment and Sustainable Development Division)

- **Some of the services provided by the ministry:**

- Processing of PER/EIA reports and post monitoring;
- Advise on appropriate pollution abatement measures;
- Attending complaints made by the public regarding environmental pollution;
- Public awareness & environmental education; and Public access to environmental information.

- **The National Disaster Risk Reduction and Management Centre (NDRRMC) is responsible for the planning, organizing, coordinating and monitoring of disaster risk reduction and management activities at all levels. A HAZMAT Plan has recently been prepared.**

- **The Solid Waste Management Division is responsible for the management of municipal waste.**

## Other Ministries/Departments

**Ministry of Health and Quality of Life.**

**Local Authorities**, responsible for the collection of municipal wastes

**Prime Minister's Office,**

- National Development Unit
- Police of the Environment



# Water Resources Mobilisation

## **SURFACE WATER.**

### 7 Impounding reservoirs

- total capacity = 91 mm<sup>3</sup>
- annual yield = 162 mm<sup>3</sup>

- **6 Water Treatment plants**
- **3 Major River abstractions**

### 25 Major Catchment Areas

-350 river run-off takes

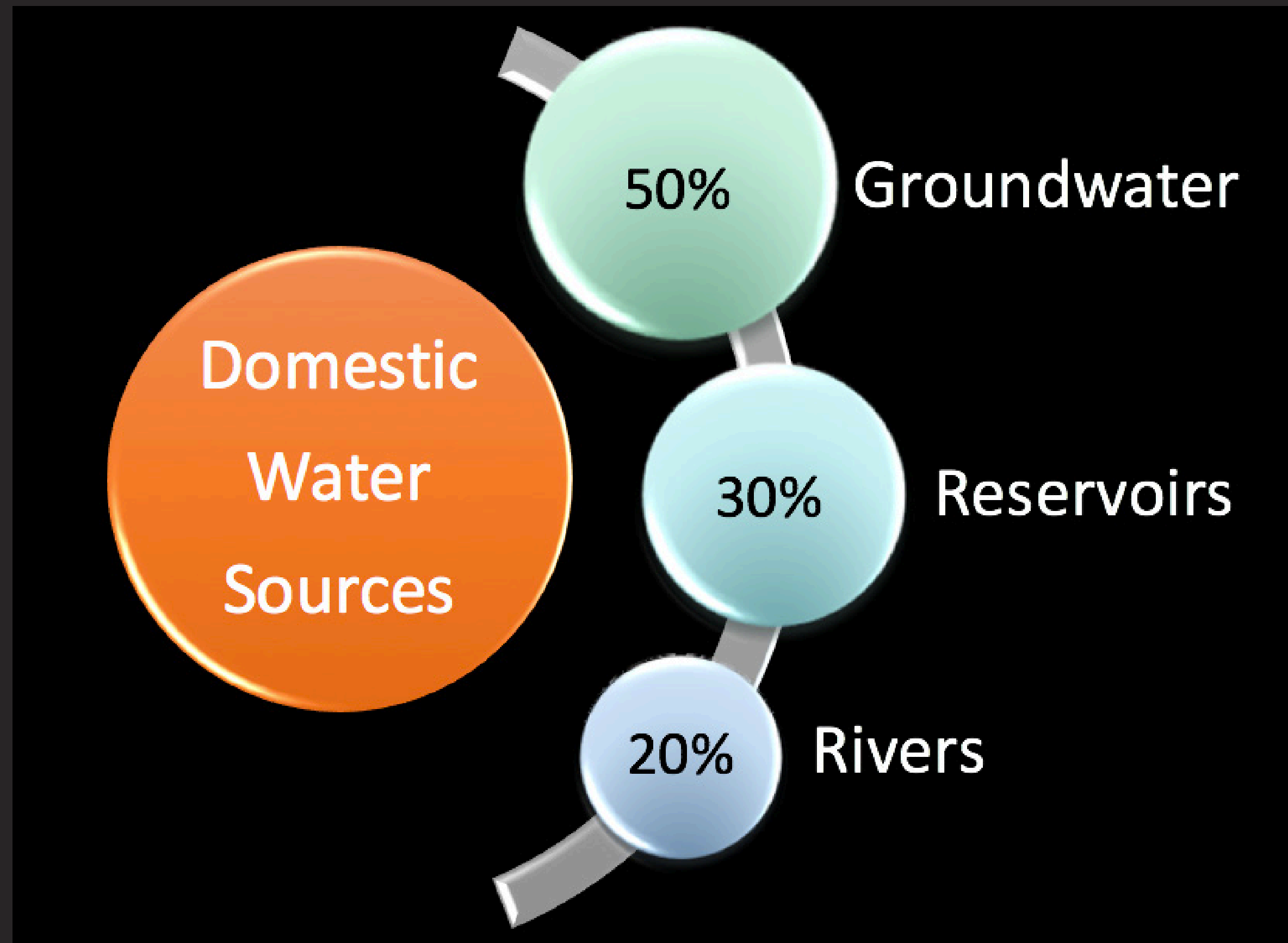
## **GROUNDWATER RESOURCES.**

- 5 Main aquifers
- 406 wells under exploitation

Use	No. of Wells
Potable	114
Private agricultural	156
Industrial	136
<b>TOTAL</b>	<b>406</b>

- Groundwater represents 50% of potable water supply
- Groundwater exploitation has nearly reached saturation

# Water Resources for domestic water supply.



## Water Demand (mm<sup>3</sup> / yr)

	Actual Supply	Demand	
		2025	2050
Domestic	76 (208,000 m <sup>3</sup> /d)	90 (247,000 m <sup>3</sup> /d)	117 (321,000 m <sup>3</sup> /d)
Commercial & industrial	35 (96,000 m <sup>3</sup> /d)	69 (189,000 m <sup>3</sup> /d)	83 (227,000 m <sup>3</sup> /d)
Irrigation	170	168	164
Hydro power generation	230	230	230
<b>Total</b>	<b><u>511</u></b>	<b><u>557</u></b>	<b><u>594</u></b>

# Projects and Activities

- **Integrated Water Resource Master Plan (2012)**

## **SUPPLY SIDE:**

- Construction of dams (Arnaud at MAV, Bagatelle, Riv. des Anguilles, Constance)
- Rehabilitation of water infrastructure (La Ferme Dam, Piton du Milieu, feeder canals)
- Increasing reservoir storage (La Nicolière dam, La Ferme dam)
- Lowering of Unaccounted for water (Present level being around 50%).
- Groundwater exploitation (Modelling of aquifers)

## **DEMAND SIDE:**

- Non Revenue Water
- Re-use of treated waste water (Irrigation)
- Rainwater Harvesting
- Desalination (Rodrigues and Hotels)
- Awareness campaigns/Education
- Competition
- Water Demand Management

# Sanitation

- In order to sustain its rapid economic growth and preserve the country's fragile environment, Mauritius has to address environmental issues related to demographic growth and rapid changes in the use of water and land resources.
- In 1994, the First Sewerage Master plan (1994-2013) was prepared, presenting a comprehensive framework for the development of wastewater infrastructure in Mauritius. The aim of the plan was to provide public sewerage coverage mainly in the urban areas to about 50 % of the population by 2010 and 80 % by the year 2020. Under this Plan, around MUR 15 billion have been invested in the wastewater sector for the construction of wastewater treatment plants, pumping stations, trunk and street sewers and reticulation networks.  
27% (85,465 customers) of the population is now connected to a sewerage network.
- In 2000, the Wastewater Management Authority Act was enacted and the Waste Water Management Authority was created in 2001 to manage wastewater.
- In 2012, Government approved new Master Plan 2014-2033. The objective of the plan is to elaborate a programme for the development and management of waste water in Mauritius for a period of 20 years 2014-2033.
- Government is spending about Rs.5.5b to extend the sewer network and house connections

# Legal Framework

- **CWA Act**
- **Rivers and Canals Act**
- **Groundwater Act.**
- **Environment Protection Act**
- **Forest and Reserve**
- **WMA Act**
- **Public Health Act**
- **Irrigation Authority Act.**
- **Local Government Act.**

# Water Quality Management

**CWA (2 laboratories, chemistry/biology), WMA and National Environment Laboratory(NEL)**

## **Groundwater**

- Guideline( 200m buffer)
- Regular monitoring of aquifers
- Permits and Licences

## **Surface Water**

- Legislation (water rights)
- EIA, PER
- Effluence Discharge Permit
- Surveillance



# Water Quality Surveillance Committee

The MEPU has set up a Water Quality Surveillance Committee in the year 2012 to look into the aspect of water quality in Rivers and Reservoirs of Mauritius.

The following Ministries and Organizations forms part of the Water Quality Surveillance Committee.

- **Ministry of Energy and Public Utilities**
  - Water Resources Unit
  - Central Water Authority
  - Wastewater Management Authority
- **Ministry of Environment.**
- **Ministry of Agro-Industry & Food Security (Forestry Services)**
- **Ministry of Finance**
- **Ministry of Health and Quality of Life.**

## Studies/Consultancy

- Several studies have been carried out to improve the management of water resources in Mauritius.
- Since 2015, in collaboration with UNOPS and UNEP, a regional Integrated Water Resources Management (IWRM) Project is being implemented.
- UNOPS has also provided technical assistance to review legislation for effluent discharge permits.
- In 2015, Government also appointed the World Bank to conduct a study on the reform of the distribution and supply of water and provide strategic advice and support for the design and implementation of a Private and Public Partnership for the Central Water Authority and for potable water sector reform.

## Social Measures

Domestic consumers using up to 6 cu. metres of water monthly do not pay for water and wastewater charges. The tariff increases gradually with consumption. The average tariff is about Rs.12 per cu. metre.

The Ministry operates a Water Tank Scheme since 2011. Under this scheme, households whose gross family income does not exceed Rs.25000 are eligible to a grant for the purchase of a water tank of capacity 400 to 1000 litres. To date, more than 52,000 families have benefitted from the scheme.

# Complaints Handling

- The citizens may raise their problems with MP's.
- They may also address their complaints directly to institutions concerned or through other institution like the Ombudsman.
- The Utilities Call Centre, through its hotlines, is active on a 24/7 basis and relays queries raised by the public to the Utility concerned for immediate action.
- The Citizen Support Portal set up last year under the Prime Minister's Office receives complaints and queries on-line either directly or through the Citizen's Advice Bureau (CAB) offices and relays to institution concerned and follow up closely on action taken.
- Press

## New Initiatives

- A Transformation Implementation Committee (TIC) has been set up in each Ministry to identify actions that can be implemented to improve service delivery. A Steering Committee, chaired by the Secretary to Cabinet and Head of the Civil Service, oversees the works of the TICs.
- The Ministry of Finance has recently appointed a consultant to carry out a BPR exercise in all government institutions.

# Challenges

- Solid Waste Disposal
- Implementation of projects
- Human resources

