

African  
Union



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**Towards Universal  
Accession by 2023**

African Peer Review Mechanism (APRM)  
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*APRM- DESA Continental Workshop*

*Strengthening Institutional Capacities in Africa for Effective Implementation of the  
2030 Agenda and Agenda 2063: Follow-up to the 2023 SDG Summit*

26-28 October 2023 – Cape Town



# Session 3:

## Enhancing public sector capabilities for the future.

By: Ashveen Bochowa (Mauritius)

### **Question 1:**

What innovative steps have been taken to bridge science, technology and innovation divides as drivers of sustainable development?

### **Question 2:**

How are advancements in artificial intelligence, big data analytics, advanced robotics, remote sensing, financial technology and biotechnology being applied to SDG progress in different development contexts in Africa?

### **Question 3:**

What efforts are being made to bridge digital divides through hybrid – digital together with analogue – models of public service delivery?

### **Question 4:**

How can countries benefit from FutureGov, the high impact initiative launched at the 2023 SDG Summit, to develop critical public sector capabilities for the future?

# 1. What innovative steps have been taken to bridge science, technology and innovation divides as drivers of sustainable development?

## Ministry of Land Transport

Transport and Energy Sector are the highest polluting sector in Mauritius. In an attempt to green its transport sector several measures have been introduced namely:

- (i) Metro Express as a mass transport mechanism
- (ii) Ministry planning on the introduction of electric buses (seeking funding from donor agencies)

## Ministry of Energy and Public Utilities

The CEB is introducing an intelligent electronic meter also called smart meters. It will provide the functionality that suits our needs today. They will provide customers more information about their energy use & control over their bills.

# 1. What innovative steps have been taken to bridge science, technology and innovation divides as drivers of sustainable development? (contd)

## Renewable Energy

The government is committed to holding to its international commitment of reducing by 40% our GHG emissions by 2030. To this end, government has launched a multi-fold strategy aiming at increasing the contribution of renewable energy to 60% of the electricity mix by 2030. Several schemes launched Solar PV Schemes for domestic customers, hydropower plants (pilot – 56.4 MW), Landfill Gas Power Plant (1 – 3 MW), Onshore wind farm (11).

## Sustainable Finance Framework (ESG) – August 2023

NDC Financing: USD 6.5 billion (USD 4.5 billion conditional on external donor financing).

Mauritius has established this Sustainable Finance Framework intends to issue: Green, Social, Sustainability and Thematic Bonds, Loans or other debt instruments (collectively “Sustainable Use of Proceeds Finance Instruments”); or Sustainability-Linked Bonds, Loans or other debt instruments.

# 1. What innovative steps have been taken to bridge science, technology and innovation divides as drivers of sustainable development? (contd)

## Ministry of Industrial Development, SMEs and Cooperatives

Various support schemes are being implemented at the level of SME Mauritius Ltd one of which is the 'Technology and Innovation Scheme'. These include: Investment in new machinery and process improvement technologies namely (i) Investment in anti-pollution, green and energy conservation technologies (ii) Solar PV panels (iii) Water treatment mechanisms (iv) Recycling mechanisms.

GEF 8 Project (NZNPA) main components of the project include the conduct of energy audits in manufacturing enterprises, the conduct of material audits in manufacturing enterprises and the setting up of a funding mechanism, namely the 'Green Manufacturing Scheme'

# 1. What innovative steps have been taken to bridge science, technology and innovation divides as drivers of sustainable development? (contd)

## Mauritius Research and Innovation Council (MRIC)

Promoting Research and Innovation through funding schemes - The MRIC has been active in promoting research and innovation in areas of national interest by providing financial support under its various research and innovation funding schemes. Most of the schemes promote a collaborative and risk-sharing approach to undertaking research and/or innovative projects by beneficiaries through part or matching grants.

## Rainwater Harvesting Scheme

The Development Bank of Mauritius offers a Rainwater Harvesting System Loan Scheme for households (up to MUR 50,000, with a 3% rate and repayment up to 5 years).

## Ministry of Environment, Solid Waste Management and Climate Change

Under the NAMA project, an on-line NDC MauRegistry is under finalization. It will provide the Measuring, Reporting and Verification (MRV) tool for tracking progress of the NDC with regard to mitigation and adaptation actions as well as support needed and received.

# 1. What needs to be done to bridge science, technology and innovation divides as drivers of sustainable development?

## Health

- Developing competencies to keep pace with emerging diseases and medical technologies.
- Reinforcing surveillance systems for emerging and re-emerging infectious diseases and achieving health security
- As Mauritius intends to develop its Biotechnology sector, Expertise and resources needed for the production of new knowledge.
- Sustainable management and disposal of health waste.



# 1. What needs to be done to bridge science, technology and innovation divides as drivers of sustainable development?

## Transport

- Make available data on public transport to improve transport planning
- Develop an Integrated Land Transport Masterplan
- Trainings are needed to increase the capacity of LLDCs to design project proposals for this specific purpose to be submitted to relevant donors that provide climate funds.
- Absence of integrated policies reflecting the multi-sectoral nature of transport and programmatic approach to development.
- Transport forecasting and modelling

# 1. What needs to be done to bridge science, technology and innovation divides as drivers of sustainable development?

## Energy Sector

- Reduce delays in obtention of permits and clearances for implementation of RE projects
- Need to enhance Financial sustainability of statutory bodies in the utility sector.
- Implement the Renewable Energy Roadmap 2030 and Smart Grid Roadmap
- Extend mandatory energy audits in the public and private sector organisations
- Introduce a regulation to provide for the mandatory Minimum Energy Performance Standards for air conditioners and electric motors
- Introduce a legal framework for the management, regulation, conservation and preservation of scarce water resources in an integrated and sustainable manner

# 1. What needs to be done to bridge science, technology and innovation divides as drivers of sustainable development?

## Food and Agro Industry

- Capacity building in mechanization and high-tech farming.
- Inadequate technical resources for effective licensing and inspection of new state-of-the-art high-end and medical radiation facilities.
- Need for a masterplan to bring more abandoned land back into agriculture, breeding and agro-forestry.
- Operationalisation of the National Biomass Framework to increase production of Biomass-based energy.
- Low rate of implementation of projects due to unavailability of skilled labour and non performance of contractors.

# 1. What needs to be done to bridge science, technology and innovation divides as drivers of sustainable development?

## Environment

- Address data gaps for the quantification of loss and damage due to climate change impacts.
- Implementation of a sustainable waste management strategy in view of the saturation of landfill capacity.
- Operationalise the Mauritius Nationally Determined Contributions (NDC) Registry for tracking the implementation of mitigation and adaptation measures (Mau-Registry)
- Monitoring and evaluation of adaptation and mitigation expenses in the national budget.
- Deployment of an expert to develop bankable projects to be submitted to donor agencies including a technology needs assessment.

# 1. What needs to be done to bridge science, technology and innovation divides as drivers of sustainable development?

## National Infrastructure

- Implement appropriate building standards and maintenance guidelines for Government buildings in line with environmentally sustainable international norms.
- Provide an appropriate institutional and legal framework to support the development of the construction industry
- Encourage professionals and the workforce in the industry to learn new skills and technologies supporting a sustainable infrastructure development

# What are the capability gaps to bridge science, technology and innovation divides as drivers of sustainable development

## Environment

- Technical Assistance in monitoring and Evaluation of Adaptation and Mitigation expenses in the National Budget.
- Assist in development 50 GIS maps for coastal zones for impactful and cost effective climate change preparedness and response.
- Develop a Roadmap for Circular Economy in Mauritius.
- Development of a National Strategy and Action Plan on management of Hazardous Wastes

## Food and Agro Industry

- Assessment and development of the agri-business sector for the processing of primary agricultural produce into high value-added products to gradually reduce the high dependency on imports.

## National Infrastructure

- Development of an effective Government Vehicles Management System, including encouraging the use of electric vehicles.

# What are the capability gaps to bridge science, technology and innovation divides as drivers of sustainable development

## Health

- Assessing the healthcare needs of an ageing population.
- Digitalisation of the health system, including use of tele-medicine.
- Capacity Building on improving quality of customer care & patients' experience in public health Institutions.

## Transport

- Assessing efficiency issues in the public transport industry.
- Developing an Integrated Electronic Ticketing System to enable a seamless use of multi-modal transport system.
- Use advanced technologies to track careless and reckless drivers

## Energy

- Assessment of the effects of climate change on the rainfall pattern and effectiveness of water resource mobilisation
- Develop a framework to facilitate growth of Energy Service Companies to implement recommendations of the energy audits

# What are the capability gaps to bridge science, technology and innovation divides as drivers of sustainable development

## Climate

- Strategic Advisor to establish better prioritisation of project concepts and address data gaps for the quantification of loss and damage due to climate change impacts.

## Gender

- Formulate a Costed National Action Plan on the Family.
- Assistance in the preparation of a Gender Equality Bill
- NDC 2025 to be fully gender sensitised.

## Blue Economy

- Domestication and ratification of existing conventions and updating of Maritime legislations
- Long term preservation of coral reefs (climate change)

## Manufacturing

- Impact on EU Green Deal on exporters.
- Technical assistance to develop a framework to facilitate growth of Energy Service Companies to implement recommendations of the energy audits.



## What are the capability gaps to bridge science, technology and innovation divides as drivers of sustainable development

### Projectwise: Concept Note (Available)

- (i) Framework for developing Innovative Financing Mechanism (Blue and Green Bonds)
- (ii) Integration of renewable energy in wastewater treatment (feasibility study).
- (iii) Development of a Mathematical Modelling in the Northern Aquifer to ensure sustainable water supply.
- (iv) Greening the Public Transport System in Mauritius (Capacity Building on developing proposals).
- (v) Development of renewable energy projects, focused on solar, and grants for the treatment of solar PV waste and batteries (EEMO).
- (vi) Integrated Water Resources Management in Rodrigues.
- (vii) Technical Expertise on the feasibility of Agrivoltaic for Metro Express
- (viii) Greening of Motorway M1 and M2 in Mauritius.

## 2. How are advancements in artificial intelligence, big data analytics, advanced robotics, remote sensing, financial technology and biotechnology being applied to SDG progress in different development contexts in Africa?

### 1. Artificial Intelligence (AI) and Big Data Analytics:

- SDG 3 (Good Health and Well-being): In Rwanda, AI-driven diagnostic tools like Zipline drones deliver medical supplies, including blood and vaccines, to remote areas.
- SDG 2 (Zero Hunger): In Kenya, AI-powered platforms like UjuziKilimo provide farmers with real-time insights on soil health, helping optimize irrigation and predict crop yields.
- SDG 4 (Quality Education): In South Africa, the AI-driven platform Siyavula offers personalized learning experiences for students.

### 2. Advanced Robotics:

- SDG 9 (Industry, Innovation, and Infrastructure): In Mauritius, Egypt, South Africa factories are integrating robotics to enhance manufacturing efficiency.
- SDG 3 (Good Health and Well-being): In Ghana, drones from Zipline deliver medical supplies to remote health centers.
- SDG 2 (Zero Hunger): In Tanzania, drones are used for precision agriculture to monitor and manage crops.

## 2. How are advancements in artificial intelligence, big data analytics, advanced robotics, remote sensing, financial technology and biotechnology being applied to SDG progress in different development contexts in Africa?

### 3. Remote Sensing:

- SDG 15 (Life on Land): In Gabon, satellite imagery is used to monitor and combat illegal logging, promoting sustainable forest management.
- SDG 2 (Zero Hunger): In Nigeria, remote sensing technology aids in monitoring crop health and predicting potential pest infestations.
- SDG 11 (Sustainable Cities and Communities): In Morocco, satellite data assists urban planners in sustainable city development.

### 4. Financial Technology (Fintech):

- SDG 1 (No Poverty): In Kenya, M-Pesa, a mobile banking platform, has revolutionized access to financial services, especially in rural areas.
- SDG 8 (Decent Work and Economic Growth): In Uganda, platforms like Akabbo provide microloans to local entrepreneurs.
- SDG 10 (Reduced Inequality): In Senegal, digital remittance platforms like SendWave make cross-border transactions more accessible and affordable.

## 2. How are advancements in artificial intelligence, big data analytics, advanced robotics, remote sensing, financial technology and biotechnology being applied to SDG progress in different development contexts in Africa?

### 5. Biotechnology:

- SDG 3 (Good Health and Well-being): In South Africa, biotech firms are at the forefront of HIV vaccine research.
- SDG 2 (Zero Hunger): In Burkina Faso, GMO cotton varieties have been introduced to enhance crop yields and resist pests.
- SDG 6 (Clean Water and Sanitation): In Ethiopia, bioremediation projects use bacteria to clean pollutants from water sources.

### 6. Cross-cutting Impacts:

- SDG 8 (Decent Work and Economic Growth): In Rwanda, the Kigali Innovation City initiative aims to create tech-driven job opportunities.
- SDG 4 (Quality Education): In Ghana, the Ghana Code Club trains young people in digital skills.
- SDG 16 (Peace, Justice, and Strong Institutions): In Sierra Leone, the Directorate of Science, Technology, and Innovation uses big data to improve governance and transparency.

### 3. What efforts are being made to bridge digital divides through hybrid – digital together with analogue – models of public service delivery?

#### Connectivity

- 5G services are currently being extended for reach across the whole island
- Fibre-To-The-Home (FTTH) and mobile network (3G, 4G) deployment across Mauritius were completed by December 2017 with no region unserved
- Mauritius is carpeted with around free 550 WIFI hotspots at Community centres, Social welfare centres, Day care centres, Women centres to serve citizens.

#### Citizen Support Portal

The Citizen Support Portal ([www.csu.mu](http://www.csu.mu)) is an online service which allows citizens to directly transmit their requests, share their concerns and ideas with Ministries, Departments, Parastatals and Local Authorities through Citizen's Advice Bureaus (CABs). It provides the Citizen Support Unit (CSU) with a broader picture of the needs of the population.

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#### MRA Online Revenue Collection

MRA e-Services is a secured online platform offering taxpayers the facility to file tax returns electronically. The taxpayer may effect electronic payment through Direct Debit or online credit card.

#### SDG Investor Map Mauritius

Several Initiatives announced for e.g Medical: Cote D’Or Investment Technology Investment Park; Education: Adopting state-of-the-art digital technology and best practices in e-learning.

#### E-procurement System

Mauritius has made significant strides in bolstering its public procurement system thereby demonstrating a strong political commitment to enhancing its governance structure.

#### App on Domestic Violence

The Mobile App “Lespwar” is equipped with a panic button that will detect the location and enable officers of the Ministry and the Police Family Protection Unit to provide quick assistance to victims of GBV.

### 3. What efforts are being made to bridge digital divides through hybrid – digital together with analogue – models of public service delivery?

#### Digital enablers

Mauritius has implemented a number of digital enabling solutions that serve to accelerate digitalization for better service delivery, which include:

(i) InfoHighway: It provides services that can be integrated in departmental applications for secure data sharing and interoperability with a view to optimising service delivery to Government, businesses and citizens.

(ii) MoKloud: It allows users to keep a copy of their official documents in digital format for verification or presentation to authorities or other institutions. Such documents include extracts of birth and marriage certificates, digital vaccination passes, certificates of electricity supply (proofs of address) and e-payslips of Government officials.

(iii) Mausign Certification Authority: Issue of digital certificates to users willing to authenticate electronic documents, software and web pages.

(vi) MauCAS Payment Switch: For banks and non-bank operators to provide transformative payment and value-added services through cards, mobile phones and other innovative channels.

### 3. What efforts are being made to bridge digital divides through hybrid – digital together with analogue – models of public service delivery?

#### National E-Licensing Project (NELS)

Funded by the EU and implemented by the Economic Development Board (EDB), the NELS Project is supporting Mauritius' business and investment climate.

Under this programme, Mauritius will be able to process permit applications through an electronic platform which will be a single point of entry for business permits and licences. The project will facilitate the business and investment environment by reducing the number of business permit applications and the time taken to obtain business licences and permits.

This modern and efficient practice will not only reduce the time and cost to the private sector, but will improve transparency, predictability and reduce uncertainty in the investment decision making process.



## 4. How can countries benefit from FutureGov, the high impact initiative launched at the 2023 SDG Summit, to develop critical public sector capabilities for the future?

The FutureGov High Impact initiatives is intended to help member countries improve the way they plan, finance, deliver, and evaluate public services as part of their public sector reform journeys. As part of the global effort, the United Nations has rallied around 12 high-impact initiatives that will serve as a foundation for scaling up SDG success. These initiatives address three primary issues: economic and social transformations, implementation methods, and a critical component of the cross-cutting issue of gender equality.

Countries may benefit from the following:

### Skillsets

Using a shared toolbox, it can help develop public sector skillsets for flexible and resilient organisations, Member states will collaborate to develop and update a short list of priority skills, including improving the agility of public service delivery, designing systems to generate effective policies and investment decisions, and working across traditional boundaries to unify capabilities across agencies, sectors, and society.

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### Intergovernmental Learning

FutureGov will assist nations in accelerating intergovernmental learning and exchange, effectively using system tools to influence public sector policies and investment in the SDGs, and leveraging data science and digital literacy capabilities.

### Social Inclusion

Social inclusion and diversity initiatives may help minimize prejudice, promote equitable opportunities, and guarantee that no one is left behind on the path to sustainable development.

### International Collaboration:

High-impact efforts frequently entail international collaboration which can result in collaboration, information exchange, and access to resources from a variety of sources, including international organizations and donor nations.

#### 4. How can countries benefit from FutureGov, the high impact initiative launched at the 2023 SDG Summit, to develop critical public sector capabilities for the future?

High-impact programmes may:

- (i) raise marginalized and vulnerable groups out of poverty by providing resources, skills, and opportunity.
- (i) assist countries in reducing their carbon footprint, protecting natural resources, and promoting environmentally friendly practices.
- (i) improve education systems, grant scholarships, and encourage skill development, ensuring that a country's workforce is future-ready.

## **Concluding Remarks:**

Governments have a central role in the implementation of the Sustainable Development Goals, in eradicating poverty, protecting the fragile ecosystems, and promoting prosperity in a changing world. Engaging all parts and levels of government is pivotal.

Without effective, accountable and inclusive institutions at all levels, there can be no progress in the delivery of essential services such as health, education, clean water and sanitation, or transportation, among others.

While no single “one-size-fits-all” model of governance can be held up as the gold standard, there is a strong consensus around the role and significance of effective, accountable, and inclusive institutions in promoting sustainable and equitable development

THANK YOU...

