UN Forum on Science, Technology & Innovation

15 – 16 May 2017

Republic of Mauritius

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Mauritius Research Council
Overview

- A small Island in a Big Ocean
- Ocean Economic Drivers
  - Aquaculture
  - Seaweed Industry
  - Marine Renewable Energy
- Need for data capturing for informed decision making: Role of Science & technology & Innovation
- Recommendations
An Ocean state

- EEZ: 2.3 million km²

1100 x land space of Mauritius

Mauritius is a big OCEAN STATE
Local Context

- Land Area: 2040 Km$^2$
- Population: 1.3 million
- EEZ: 2.3 million km$^2$ – Ocean State
- Population Literacy rate: ~90%
- 55% Internet penetration
- 122% Mobile phone penetration
- Not much land natural resources
- Main Assets
  - **People - Knowledge Based Economy**
  - **Ocean – Ocean Economy**
- To face SIDs vulnerability
  - **Environmental Concerns-Climate Change**
  - **Global Economic Shocks**
- Strategic Location: a bridge between Africa/Asia/Australia
Source: Ministry of Tertiary Education, Science, Research and Technology
The Ocean State

Ocean for Energy
Ocean for Food
Ocean for Water
Ocean for Minerals
Ocean for Leisure
Ocean for Health

SUSTAINABILITY
Aquaculture Farm in Mauritius
Local Seaweeds of commercial potential

- Ulva lactuca
- Padina spp.
- Sargassum binderi
- Sargassum aquifolium
- Gracilaria salicornia
- Hypnea cornuta
Seaweed Lagoon Farming Training
Capacity building workshop (Seaweed Value addition, pickles, jams, etc)

Seaweed Capacity building workshop in Mauritius
Ocean Energy Resources

- Offshore Wind Energy
- Ocean Wave Energy
- Ocean Current Energy

Salinity Gradient Power
CETO Technology of Carnegie Wave Energy Ltd

Submerged Structures
Deployment and retrieval of wave rider buoy for Carnegie Wave Project, Souillac (2016)
Hourly Wave data through Satellite Transmission
Offshore Wave Energy Potential – Wave modelling

Mean Summertime wave power

Mean Wintertime wave power
Offshore Wind Farm
Expression of Interest Launched (May 2017)

Offshore Wind Turbines
SCHOTTEL Instream Turbine (SIT 250)

Study on electricity generation from Marine currents

https://www.schottel.de/pt/noticias-e-eventos/noticias/news-detail/?no_cache=1&tx_ttnews%5Btt_news%5D=393
Data Capturing for informed Decision making
Electronic Sensors for Data Capturing

https://www.crazypi.com/grove-sensors-raspberry-pi-india
Data Capturing through the Cloud and I.o.T

Sensor data from different locations

Data Acquisition

Sensor Cloud

Data Processing

Value added information

App development, notifications, monitoring etc

End Users

Real Time

Data Analytics
Prize Award Ceremony for Robotics Training – April 2017
Three Recommendations for SGD 14

