

UN Forum on Science, Technology & Innovation

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Country Presentation: Republic of Mauritius

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Overview

- A small Island in a Big Ocean
- Exclusive Economic Zone
- Economic & Social Challenges
- Ocean State
 - Aquaculture*
 - Seaweed Industry*
 - Deep Ocean water Application*
 - Marine Renewable Energy*
- Role of Science & technology & Innovation



- Indian Ocean – 73.56 million km²
- 3rd largest world's oceanic divisions
- 5 countries in the Indian Ocean Commission
- EEZ of Combined Member States: 5,5 m km²
- Total Land Area: 595 000 km²
- Population: 26m

Local Context

- Land Area: 2040 Km²
- Population: 1.3 million
- EEZ: 2.3 million km² – Ocean State
- Population Literacy rate: ~90%
- 55% Internet penetration
- 122% Mobile phone penetration
- 3.1 metric tons of CO2 per capita
- Not much 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



The Agalga Islands and Cargados Carajoes Shoals (St. Brandon) are administered from Port Louis, while Rodrigues has a resident commissioner.

Transformation of the Economic Landscape



Ocean Economy

- EEZ: 2.3 million km² – Ocean State

1100 x land space of Mauritius

4 x size of France

One Third size of Europe

Mauritius is a big OCEAN STATE



The Ocean State

Ocean for
Energy

Ocean
for Food

Ocean for
Water

Ocean for
Minerals

Ocean for
Leisure

Ocean for
Health

SUSTAINABILITY

Community/Participating
Approach with shared
responsibilities

Global & Regional
Responsibilities

Managing for
uncertainty/Adaptive
Management

Informed policy-
making based on
scientific evidence

Guiding Principles

Ecosystem integrity with
economic/social/environ-
mental/cultural concerns

Duty of care &
Stewardship

Precautionary
Principle

Polluter Pay
Principle

*Integrated in Lisbon Principles for Sustainable Ocean Governance in 1999
(USA, Sweden, Australia, Solomons, UK, Portugal)*

GOVERNMENT PROGRAMME 2015 – 2019

**“Government is committed to making
Ocean economy an important
industry to sustain economic
diversification, job creation and
wealth generation. “**

The 7 Clusters for the Ocean Economy



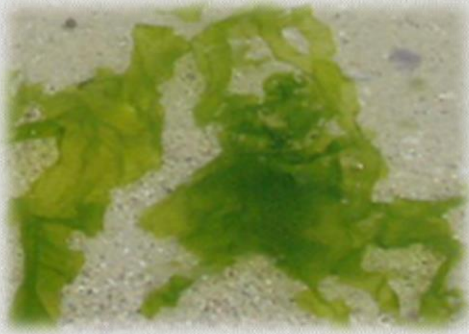




FERME MARINE DE MAHEBOURG



Local Seaweeds of commercial potential



Ulva lactuca



Padina spp.



*Sargassum
binderi*



*Sargassum
aquifolium*



Gracilaria salicornia



*Hypnea
cornuta*

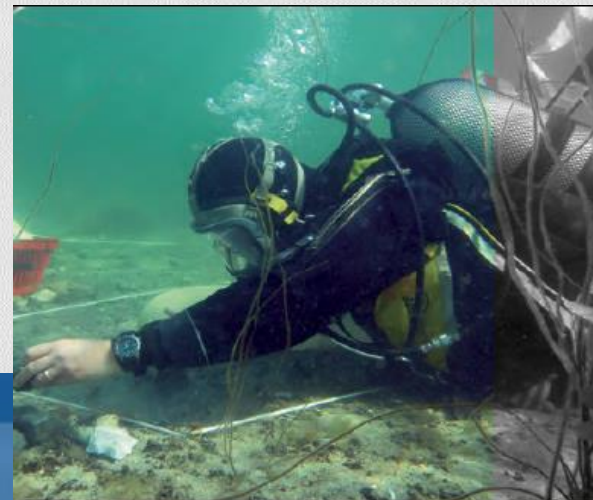


Capacity building workshop in Rodrigues (03rd Nov 2014 - 7th Nov 2014)



Capacity building workshop in Mauritius (12th Nov 2014 - 14th Nov 2014)

- Recent geophysical surveys in the region of the Mascarene Plateau revealed that the continental crust along the Mascarene Plateau extends further southward to the Banks.
- The discovery in 2009 of inactive hydrothermal fields by the Joint Mauritius and Japanese expedition within our EEZ indicates the likelihood of mineral deposits.



Deep Ocean Water, Mauritius

Because of the Great Conveyor Belt that arrives in our EEZ, our Deep (>1000m) Sea Water is:

very cold (5 to 6 C)

very old

free from pathogens/pollutants

very pure

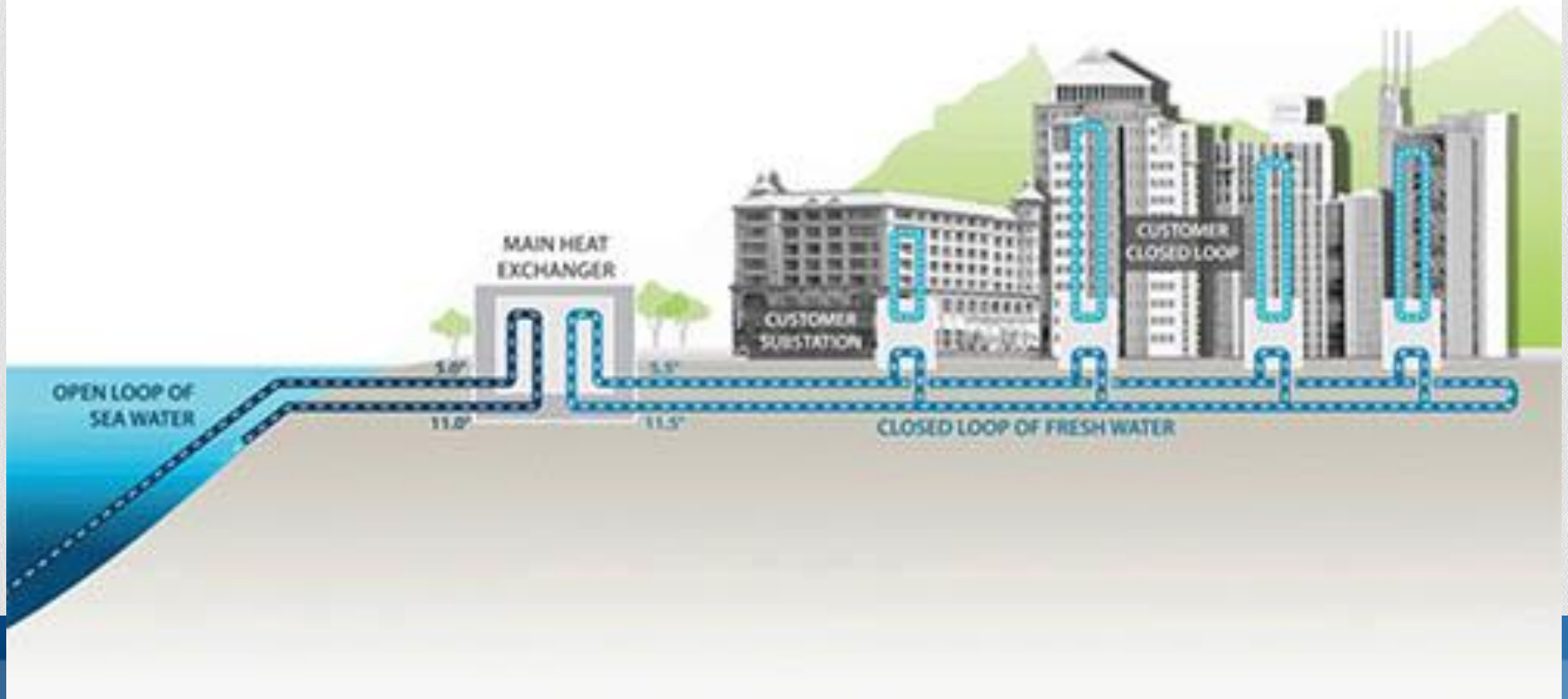
rich in minerals

rich in nutrients





Proposed DOWA Project by Sotravic Urban Cooling Ltd

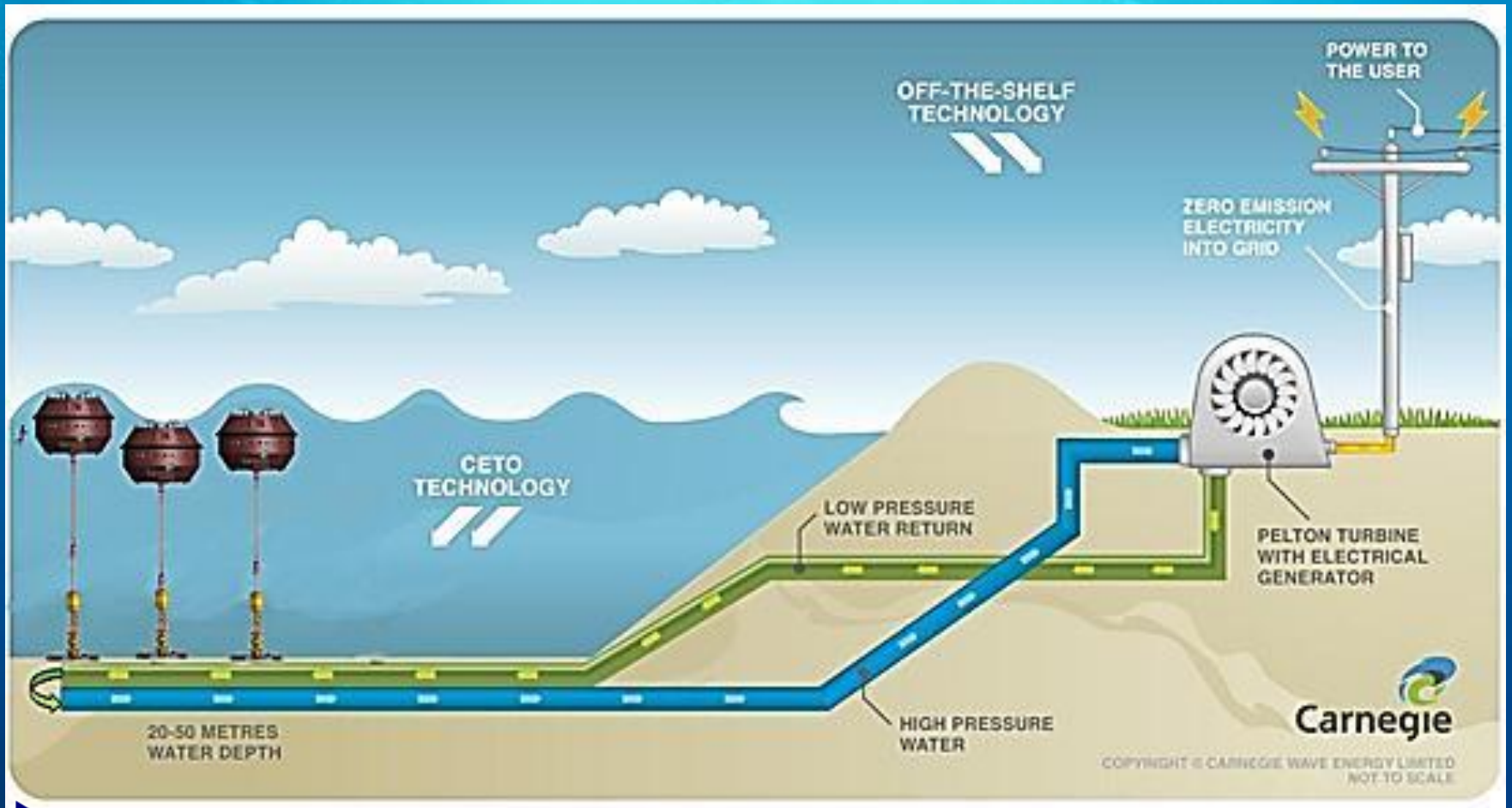


Ocean Energy Resources

- Ocean Wind Energy
- Ocean Wave Energy
- Ocean Current Energy
- Ocean Thermal Energy
- Ocean Saline Energy

Ocean Wave Energy (CETO)

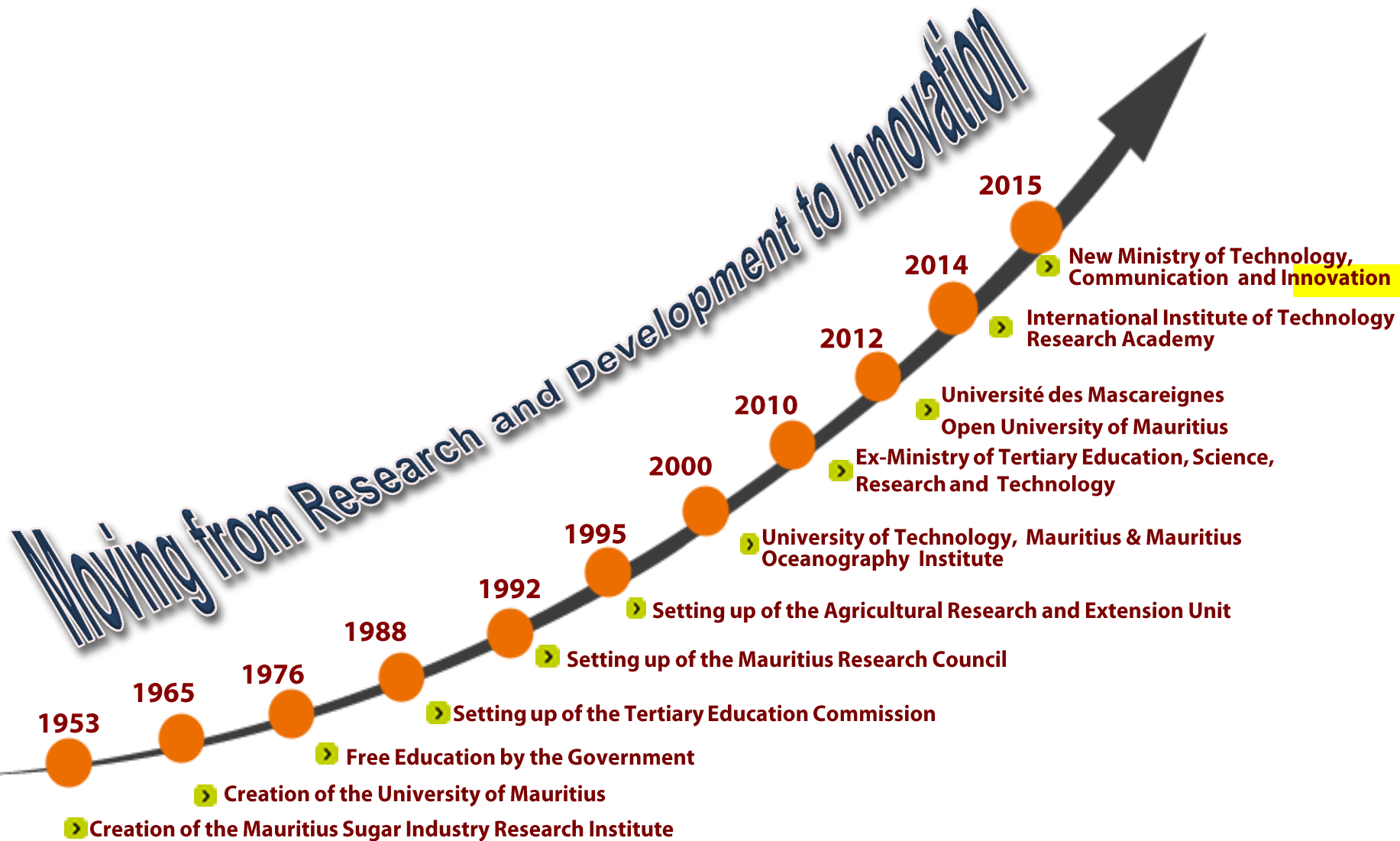
CETO



Cluster 6: Capacity Building. Emp & Training Develop.

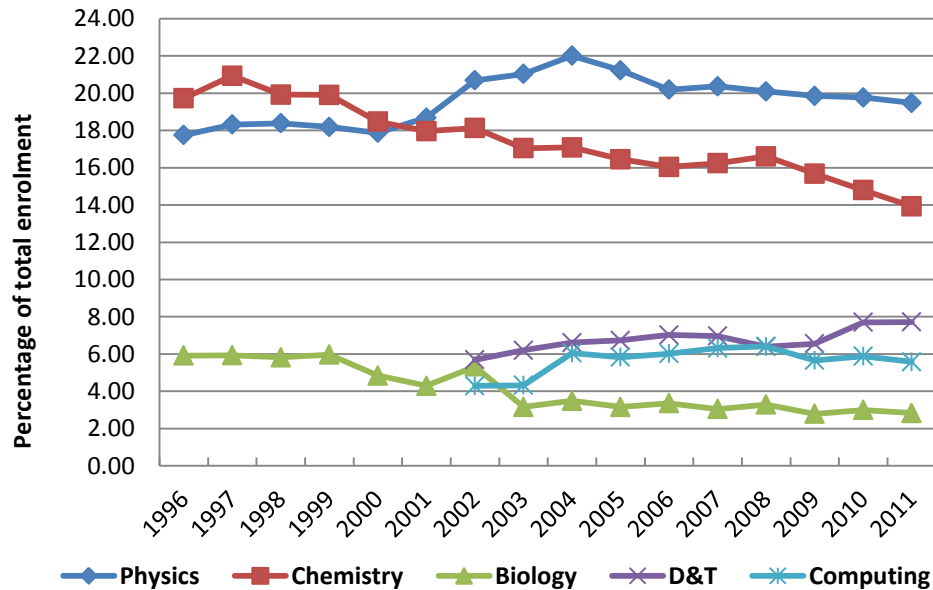
- Ensure adequate capacity building, HR requirement and local man power planning for this rapidly growing sector
- Promote courses for all levels (basic, cadet, engineering etc.)
- Open up maritime training courses to private sector operators etc.
- Promote Science Technology, Multi-disciplinary collaborative Research, regionally and internationally.

Evolution of the Public Research Sector in Mauritius



Human Capital

MALE STUDENTS TAKING SCIENCE AT A-LEVEL



Secondary

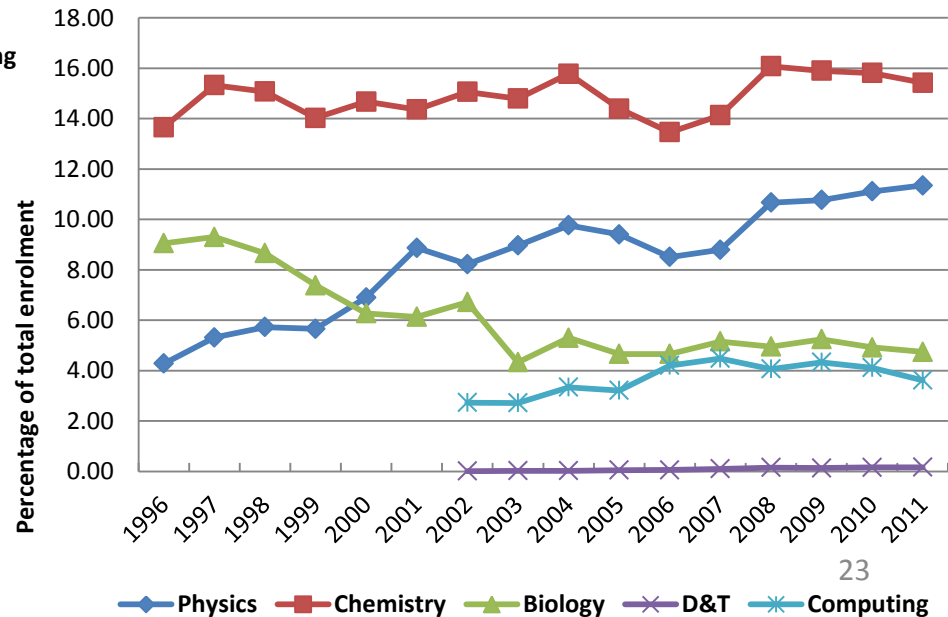
- 30-33% S&T
- Gender Issues
- More Male than Female selected Physics

Tertiary

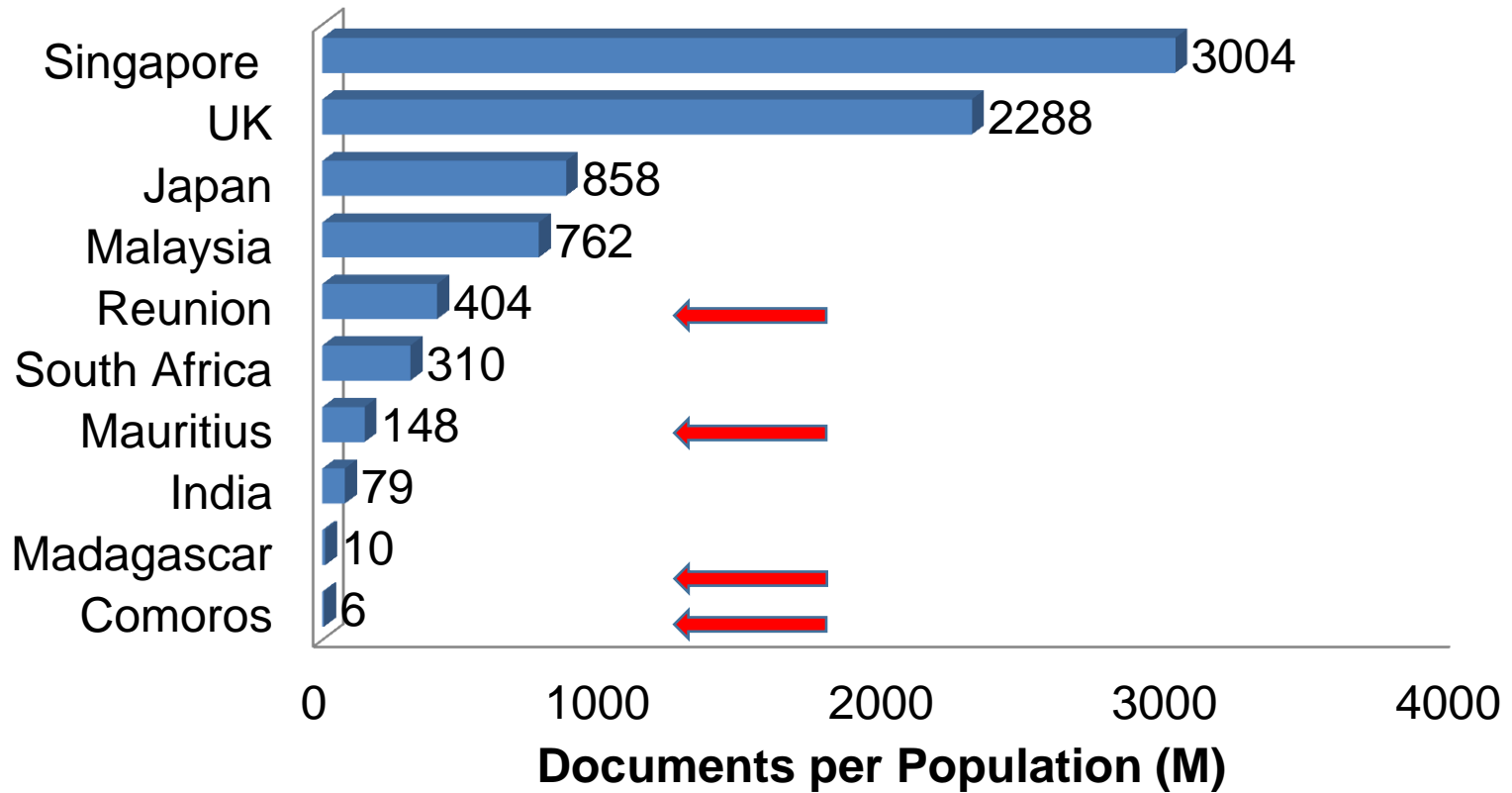
- 30% S&T
- Gender Issues
- PhD Students
- More Male than Female in IT & Engineering

- 30-33% S&T
- Gender Issues

FEMALE STUDENTS TAKING SCIENCE AT A-LEVEL



Documents per Population (M) for the year 2014

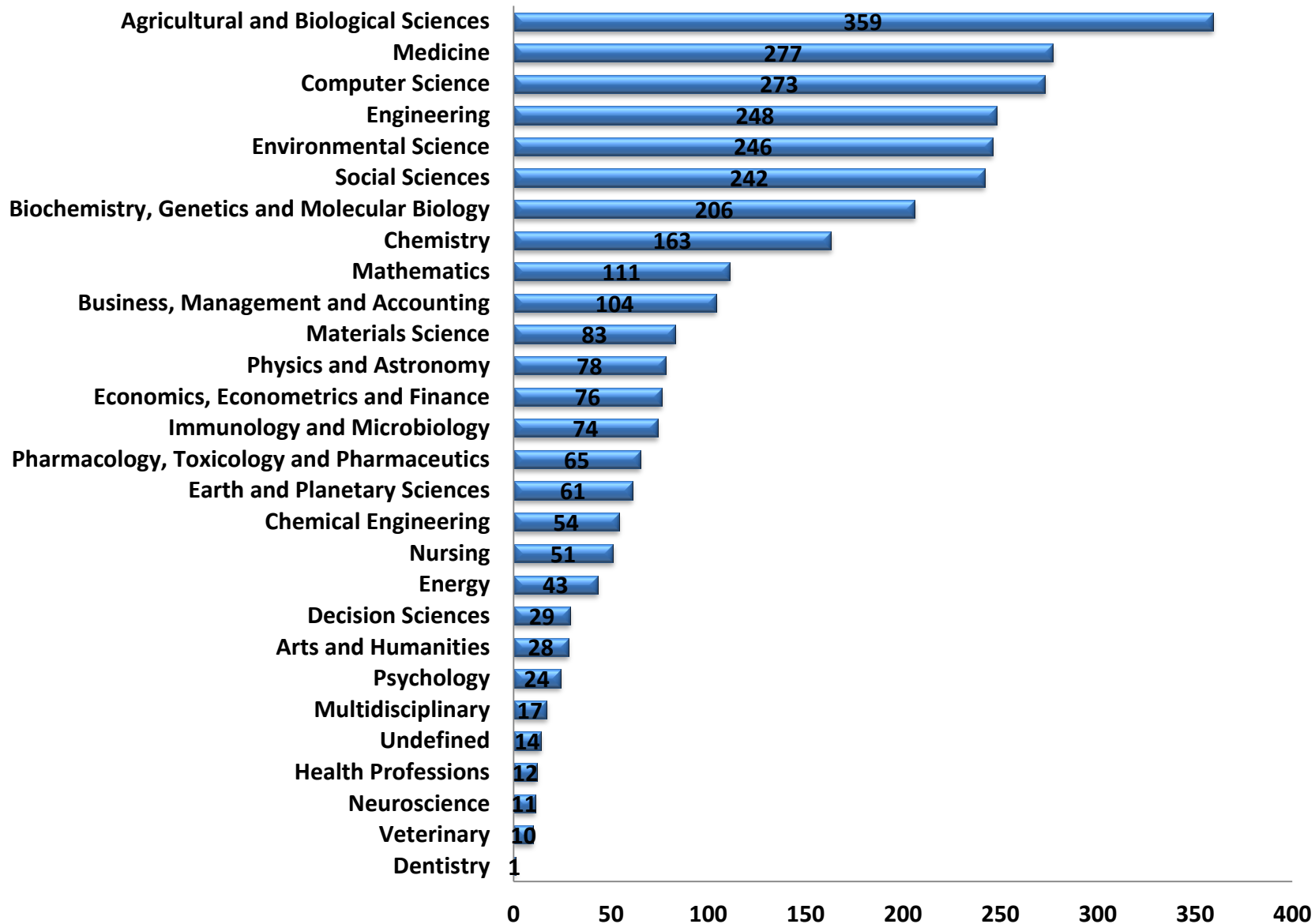


Country	UK	Japan	India	Singapore	Malaysia	South Africa	Reunion	Madagascar	Mauritius	Comoros
Documents	146,679	109,232	98,312	16,223	22,563	16,441	364	229	193	4
Population (M)	64.1	127.3	1243.3	5.4	29.6	53	0.9	23	1.3	0.7
Documents per Population (M)	2288	858	79	3004	762	310	404	10	148	6

Source: Scopus

Bibliometric Analysis using Scopus

Subject areas (2000-2014)



Challenges for STI in SIDS

Human Capacity

- *Mismatch between available and required skills*
- *Motivate students to opt for science and maths.*
- *Lack of Specific marine science/ engineering expertise*
- *Lack of advanced scientific labs. (Research Vessel)*
- *Promote open access data policy.*
- *Promote Marine ICT – Big Data – High Performance computing*
More PhD holders to undertake applied multidisciplinary research
- *Enhancing International networking*

Harmonize the Legal and institutional framework

Development of an integrated STI Policy framework

Thank you for your attention



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