

# **COASTAL PROTECTION AND CLIMATE ADAPTATION FOR ISLANDS**

## **TRAINING WORKSHOP**

**at the University of Mauritius**

**28 – 02 MARCH 2023**

**Opening Ceremony on Tuesday 28.02.23**

**Speech by Raj H. Prayag GOSK. PDSM**

**President of the Institution of Engineers Mauritius**

### **All protocol observed**

The short video we have just seen gives a glimpse of what will be recurring in the future and how Mauritius will shrink by virtue of the fact that we shall slowly but surely be losing hundreds of square meters of coastal land after each such event.

All this is happening because those responsible for historical CO2 emission have committed a crime against humanity over the years despite all the warnings given to them that limiting the rise in global temperature at 1.5 degree was the red line. To these leaders a few points of the GDP are far more important than the lives and livelihood of millions of coastal inhabitants of the planet.

Infact, I feel ashamed that the global political leaders of my generation have failed humanity. To me this tantamount to crime against humanity and they should be tried for their crime at the Hague International Crime Tribunal.

The consequences of no-action to address CC were clearly predictable since 1992 and despite numerous COPS and hundreds of meetings on CC and empty promises made, we have now crossed the redline as confirmed by IPCC, in the margin of COP27, and global warning and its ensuing consequences are irreversible.

This is where we stand today and we are having to fight for the lives and livelihood of our children and grandchildren.

In the meantime, the challenges for SIDS and coastal States have increased many folds.

Countries like Mauritius, in fact all SIDS and many continental coastal areas and the low-lying zones are bearing the brunt of the impacts CC.

Some islands will disappear.

In 1992, the President of Maldives Maumoon Abdul Gayoon had warned the global community that if they took too long to take action to reduce global warning, some Maldives islands will have disappeared. Time and history have proven him right.

Coastal areas in Mauritius have been degrading for some time now and I am old enough to remember the sand dunes along the west and east coasts of Mauritius and I also remember how these sand dunes were pilfered by greedy people with the blessing of the Government of the day and also by those monitoring the sand extraction as they were turning a blind eye to the pilfering for a few rupees.

The stakes are high in SIDS for losing coastal areas will place unbearable pressure on land use inland. There is bound to be unbearable pressure on water sheds and putting at peril our water security; on agricultural land again endangering our food security etc.

I do not want to scare you here this afternoon with the consequences of the impacts of flooding of coastal areas. Imagine all our beautiful bungalows and our beautiful hotels disappearing under water. You have seen a preview of what is to come in the video and I shall leave the rest to your imagination.

I have and am still seeing many coastal protection works being undertaken without first having carried out proper scientific studies of the local marine and coastal physical prevailing conditions. Choice of protective structures depend very much on the exposure of that location to the marine conditions such as bathymetry, waves amplitude and direction of current whether its tangential or lateral and the angles thereof, slope of the beach etc.

I have got some data I can share with you which are from a study carried by JICA over years 2012-2015

JICA team carried out a detailed survey at the priority eroded sites taking into account factors such as bathymetry, beach topography, lagoon hydrodynamics, reef conditions, water quality, coastal use of the areas, shoreline change analysis using satellite images as from 1967, amongst others.

#### **JICA study 2012-2015 - Shoreline change at sites studied (data 1967-2012)**

1. Baie du Tombeau – Erosion of 5 m to 10 m
2. Pointe aux Cannoniers – erosion of 10m to 18 m
3. Mon Choisy – erosion of 12 m to 18 m
4. Bras D'Eau – Accreting beach except for localized erosion near toiler block
5. Trou d'Eau Douce Quatre Cocos – erosion of 20 m
6. Ile aux Cerfs – Accretion of up to 250 m
7. Bel Ombre – Accreting beach in general except near Heritage hotel restaurant
8. Le Morne – Accreting in general with minor escarpment during storm surges
9. Flic en Flac – Erosion of up to 25 m in the middle part of the beach; accretion near Villas Coraline
10. Albion – Erosion of over 10 m near AFRC
11. Pointe aux Sables – erosion of 10 m to 20 m
12. Ram Beeroo's paper on erosion at trou aux Biches
13. Trou aux Biches – erosion of 0.18 m to 1.75 m per year

Accordingly coastal conservation plans were prepared for these eroded sites, where short term and long-term actions have been recommended.

There is no one fit all solution to coastal protection. I have concern about the works that are being undertaken as there are many examples of coastal structures which have not stood the test of time.

I avail of this opportunity, as we have the Minister of Environment present here, to strongly suggest and appeal that we put in place a holistic approach and that a formal collaboration MOU between Mauritius Oceanographic Institute, the University of Mauritius and the Ministries of Environment and Ministry of Housing be entered into for a comprehensive study of the coastal areas, for data collection to enable the designs of coastal protection works to be done, that would be based on real prevailing dynamic conditions.

As President of IEM, I am confirming that IEM will be happy to participate in any such studies and will help and participate on pro-bono basis with the drafting of the TOR for such an exercise.

Only designs and works based on data representing the actual characteristics of the sites will prove to be efficient.

To conclude my remarks, Institution of Engineers Mauritius is once again, very pleased to collaborate with the University of Mauritius to organise this workshop as part of Engineering Capacity building to deal with pressing problems impacting Mauritius.

I welcome and thank warmly our eminent overseas collaborators Professor V. Sundar, Professor A. S. Sannasiraj, Professor K. Murali – **IITMadras**; Professor Holger Schüttrumpf & Professor Stamm Jürgen, RWTH, **Aachen University**, Germany; Professor, Mukand Singh Babel, **Asian Institute of Technology Bangkok**, Thailand who have come to our Island to share their valuable international experience.

**Thank You**