

Vulnerability assessment associated with climate change and sea-level rise, as a tool to build resilience among the coastal community of Mauritius

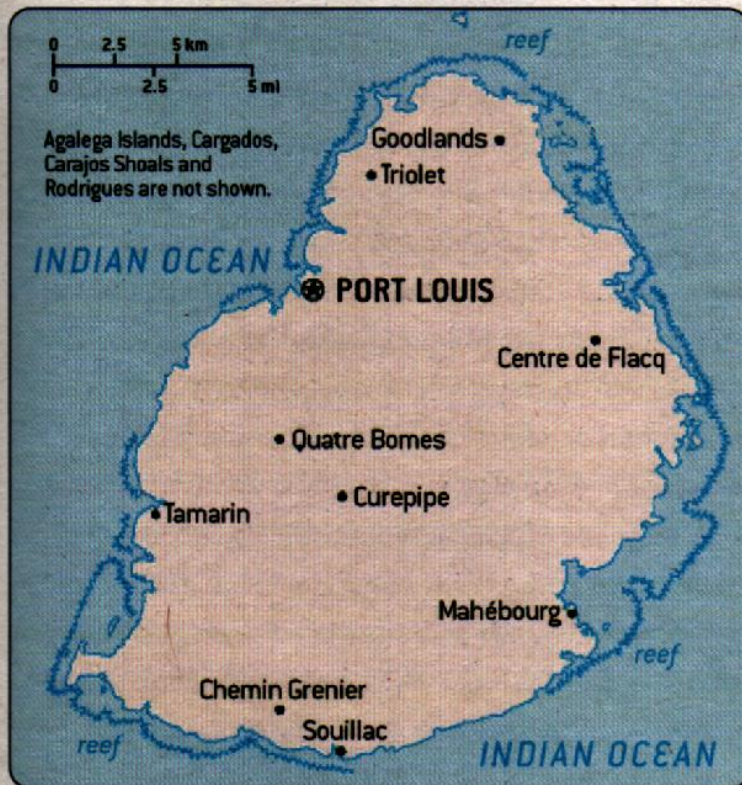
By:

Mr. Kheswar Beeharry Panray
CEO/Team leader

**Environmental Protection & Conservation
Organisation
EPCO
A National Environment NGO**



Mauritius



Source: Islands.com

Mauritius includes Agalega Islands, Cargados, Carajos Shoals (also known as Saint Brandon) and Rodrigues and is located in the Indian Ocean east of Madagascar between $20^{\circ} 17' S$ and $57^{\circ} 33' E$. Mauritius occupies an area of $2\,040\text{ km}^2$ with a coastline of 496 km . The climate of this country is tropical and is modified by the southeast trade winds. It is warm and dry during the period May to November and usually hot, wet and humid from November to May. The terrain consists of a small coastal plain rising to discontinuous mountains encircling a central plateau. Mont Piton, standing 828 m above mean sea level, is the highest point in Mauritius. In 2002, the estimated population of Mauritius was $1\,180\,000$ with a population growth rate of 0.9 per cent per year (WRI 2004).

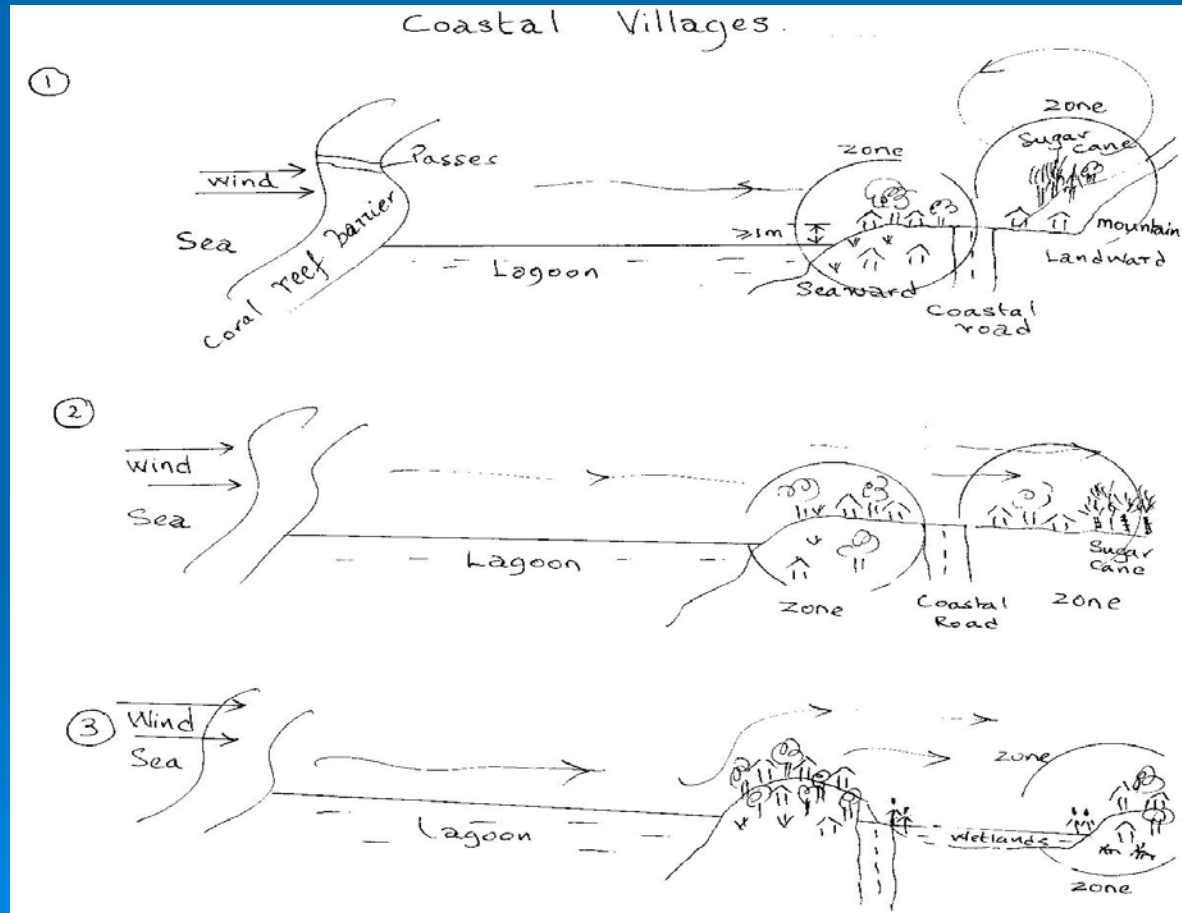
Background

Wise practices for coping with climate change in Mauritius

- Started in April 2006- A pilot project in four coastal villages
- Funded by GEF through the UNDP small grant programme
- The aim of the project was to prepare and implement an Adaptation Strategy Plan (ASP) for each village
- Methodology – Fully involve the coastal community throughout the process
- For the preparation of the ASP it was necessary to carry out a Vulnerability Assessment (VA) in the four coastal villages
- Vulnerability Assessment in the four coastal villages was carried out by a team of EPCO volunteers

General Characteristic

Coastal Villages



Vulnerability assessment associated with climate change and sea-level rise, as a tool to build resilience among the coastal community of Mauritius

The assessment was carried out under the following conditions:

- *Use existing infrastructure and local setting*
- *Involve the community in data collection*
- *Use very simple methods to collect data that is understandable by the coastal community*
- *Use data collection techniques under different scenarios through mapping, questioning, field visits and surveys*
- *Use a method to trigger preparedness and build resilience among the coastal community*



The Aim

Preparation of an Adaptation Strategy Plan-ASP for the village

Other objectives:

- **Data available for future use and planning**
- **Data available for comparison-National/Regional/International**
- **Public information**



Methodology

An expanded IPCC Common Methodology built on a broader assessment and decision-making support framework, appropriate to Mauritian coastal villages

Activities

- Start with a 3-D exhibition in the coastal villages on :
‘ What is climate Change?’
- Recruit some 20-30 volunteers (Community Climate Change Preparedness Team – CCCPT) in the village. Train the team to undertake the Vulnerability Assessment exercise.



The training sessions include :

Technical and institutional capacity building.

- Assessing changes by experimenting, monitoring, field visits and surveys.
- Assessing capacity of the community and village on existing services and facilities.
- Involve in mitigating exercises.
- Data collection and interpretation methods.
- Communication & questioning techniques-under different scenarios

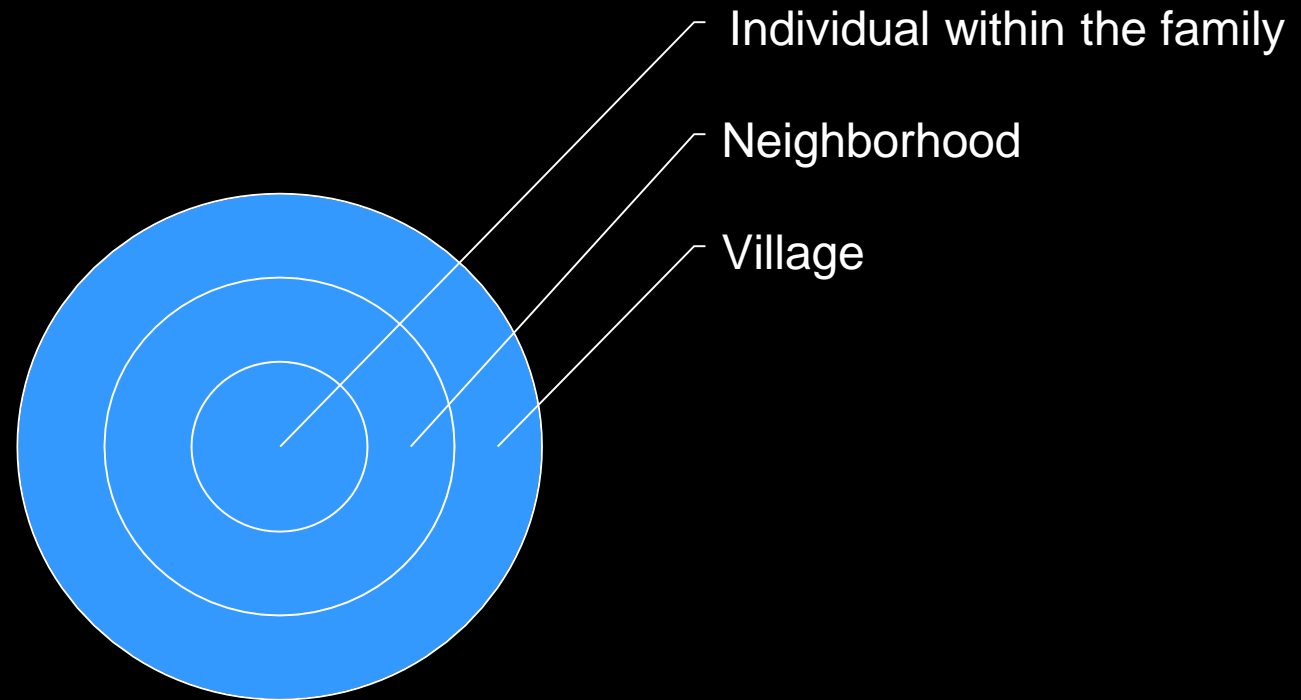
Assessment

What was assessed?

The individual/family within the immediate environment taking into consideration the living style, status and structure in relation to the coastal village; i.e.,

- The person is living in
- Consideration of the location
- Availability of resources, services and facilities.

Procedure



Data collection methods

- Field visits
- Surveys
- Assessment exercises
- Map reading
- Share knowledge & understanding with the local community
- Seek information from existing sources

Mapping



Monitoring



Interpretation & Use of Data

- **Use of questionnaires**
- **Scaling of information to give a vulnerability index- using coloured stickers**
- **Compare data with other locations**
- **Preparation of ASP for the village- including short, medium and long term mitigation, adaptation and preparedness measures**

Example -Village services

All the available services are rated such as the **Police, National Coast Guard, and Fire Service**. Scores were given to availability, intervention time and also capacity to intervene; i.e, to consider if the service is having the necessary equipment to intervene – For examples vehicles or sufficient officers.

Information: Concerning Authority, Community, Visits, records on past experiences.

Score	0	1	2	3	4	5
Police Available	yes					no
Intervention time	≤ 30 Min.					≥ 1 Hrs
Capacity for intervention	High					Low

Examples- Vehicles


It was necessary to assess the number of vehicles in the village as well as the type of vehicles. This exercise was necessary because taxi service is necessary in emergency. Some vehicles such as Trucks and 4X4 can be used in pitted roads during emergency. It was important to know if the village possesses heavy earth moving vehicles that can be used to clear road blocks or open new access in case of road damage.

Score	0 Sufficient	1	2	3	4	5 Insufficient
Cars/Taxi						
Trucks						
Van /4X4						
Tractor etc						

Vulnerability index- using coloured stickers

Slightly Vulnerable White	Moderately Vulnerable Green	Vulnerable Blue	Vulnerable Yellow	Highly Vulnerable Red
0-79	80- 158	159- 237	238- 316	317-395

Conclusion

- ◆ Results can be used in documenting governmental arrangements and responses to environmental changes, in terms of coastal planning and management.
 - ◆ The measurable index can also be used to improve the Initial National Communication plan submitted to the UNFCCC in April 1999, for the preparation of the National Adaptation Programme of Action.
 - ◆ Vulnerability assessment is an ongoing process.
- 

“The Maldives is one of the small states. We are not in a position to change the course of events in the world. But what you do or do not do here will greatly influence the fate of my people. It can also change the course of world history.”

Statement by H.E Maumoon Abdul Gayoom (Maldives)

4 December 1997, Kyoto, Japan.(COP-3)

Thank You!