Adaptation Fund Project

Climate Change Adaptation Programme in the Coastal Zone of Mauritius

Project Completion Report

2012 – 2019

Prepared by: Mr. S. Boolkah, AF Project Assistant

EXECUTIVE SUMMARY

The Republic of Mauritius secured a grant of **USD 9,119,240** in 2012 from the Adaptation Fund Board for implementation of the project '**Climate Change Adaptation Programme in the Coastal Zone of Mauritius**'.

The objective is to increase climate resilience of communities and livelihoods in coastal areas of the Republic of Mauritius through implementation of the following adaptation projects.

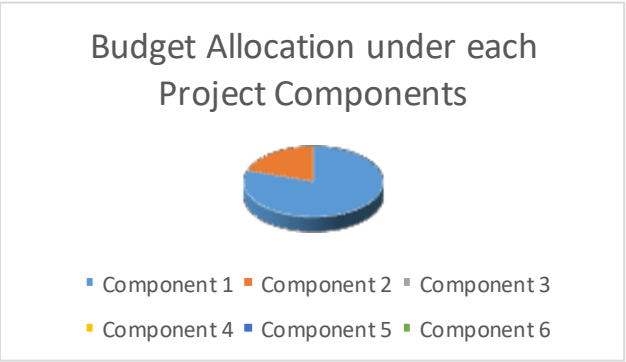
Project Dashboard

Project Component	Achievements	Status
Mangroves Plantation Project	20,000 Mangroves planted in region of Grand Sable	**Completed**
Implementation of an Early Warning System for incoming Storm Surge for the Republic of Mauritius	Republic of Mauritius first SIDs to have a fully operational Early Warning System for Storm and Tidal Surge Procurement of 3 Wave Rider Buoys from The Netherlands	**Completed** **Completed**
Training and Capacity Building	13 Short Courses completed 500 Participants trained 5 Training Manuals Developed Collaboration with 6 International Universities	**Completed**
Knowledge Dissemination and Management	15,000 people sensitized through Mobile Education Unit 'Bis Lamer' introduced in collaboration with the private sector Digital Advertisement of 4 Video Clips of about 60 Seconds on; Climate Change, Tree Planting, Solid Waste, Banning Plastic bags in buses around the island. 3,318,245 viewers reached from June to August 2019. Mass awareness and sensitization campaigns on Climate Change, Tree Planting, Solid Waste, Banning Plastic bags through MBC Television from March to August 2019	**Completed** **Completed** **Completed**
Construction of a Dedicated Refuge Centre in the village of Quatre Soeurs	A fully furnished Refuge Centre an approximate area of 1000 m^2 resilient to flooding and coastal inundation constructed at Quatre Soeurs	**Completed**

Project Component	Achievements	Status
	Construction of Ancilliary Works such; Parking, Drainage Works and Fencing	**Completed**
Coastal Adaptation Works at Riviere des Galets	Construction of a Rock Revetment Structure over a length of 430 Metres with Parapet Wall and landscaping works to protect 350 people living in the sea frontage at Riviere des Galets from flooding due to high waves	**Completed**
Policy Mainstreaming Development of a National Coastal Zone Adaptation Strategy for Republic of Mauritius	A National Coastal Zone Adaptation Strategy for Republic of Mauritius, including Coastal Vulnerability Map developed Training delivered to the EIA Committee and EA Division staffs	**Completed**
Coastal Adaptation Works at Mon Choisy including the installation of an artificial reef, Beach Re-profiling and embellishment works	995 artificial reef units (Bombora type) installed Additional Works under budget savings; Solar lighting, benches and bins Beach re-profiling over 450 metres involving removal of 215 casuarina trees Beach Embellishment Works including planting of sand binding plants Rock Groyne removal over an extent of 250 m^2	**Completed** **Ongoing** **Completed** **Completed** **Completed**

Project Output Targets

Component 1: Application of Adaptation Measures for Coastal Protection	Output Status
1.1 Detailed technical assessment of each site	✓
1.2 Technical design of coastal protection measures at each of three sites	✓
1.3 Successful Construction of physical interventions at three sites: Quatre Sœurs Riviere des Galets Mon Choisy	✓ ✓ ✓
1.4 Analysis of Data and development of recommendations	✓
1.5 Monitoring Programme designed	✓
1.6 A targeted coastal process/weather event monitoring system in place	✓
Component 2: Early Warning System for incoming Storm Surge	
2.1 Assessment of the current sea state monitoring systems (MMS and MOI)	✓
2.2 The Early Warning System installed and implemented	✓
Component 3: Training	
3.1 "Handbook on Coastal Adaptation" packaged as training modules for coastal communities	✓
3.2 Short course on Coastal Engineering designed and delivered (twice during programme period)	✓
3.3 Specialized course on Cost-Benefit Analysis of coastal adaptation measures	✓
Component 4: Policy Mainstreaming	
4.1 A National Coastal Zone Adaptation that addresses all perceived climate change risks	✓
4.2 A set of recommendations on best technical and institutional adaptation practices	✓
4.3 Definition of the required structure and processes for one "clearinghouse" for climate change	✓
4.4 Recommendations for new economic instruments	✓
Component 5: Knowledge Dissemination and Management	
5.1 Handbook, training modules, website content capturing best coastal adaptation practices	✓
5.2 Dissemination of lessons learned from the programme with coastal stakeholders	✓
5.3 Interpretive signs and small-scale models of coastal processes	✓
5.4 Public awareness campaigns on climate change in the coastal zone designed and delivered	✓
5.5 Priority ranking of vulnerable coastal sites established	✓



Project information

Adaptation Fund Grant Amount: USD 9.1 Million (including UNDP Fee)

Project Period: 30 August 2012 to 31 August 2019

Expenditure to date: USD 8,219,881 (97.8%)

Executing Entity: Ministry of Environment, Solid Waste Management and Climate Change

Implementing Entity: United Nations Development Programme

National Project Director

Mr S. Mooloo	National Project Director

United Nations Development Programme (UNDP)

Amanda Serumaga	UNDP Resident Representative
Mrs S. Sekharan	UNDP International Operations Manager
Mr S. Ramchurn	UNDP Environment Programme Officer

Original Project Team

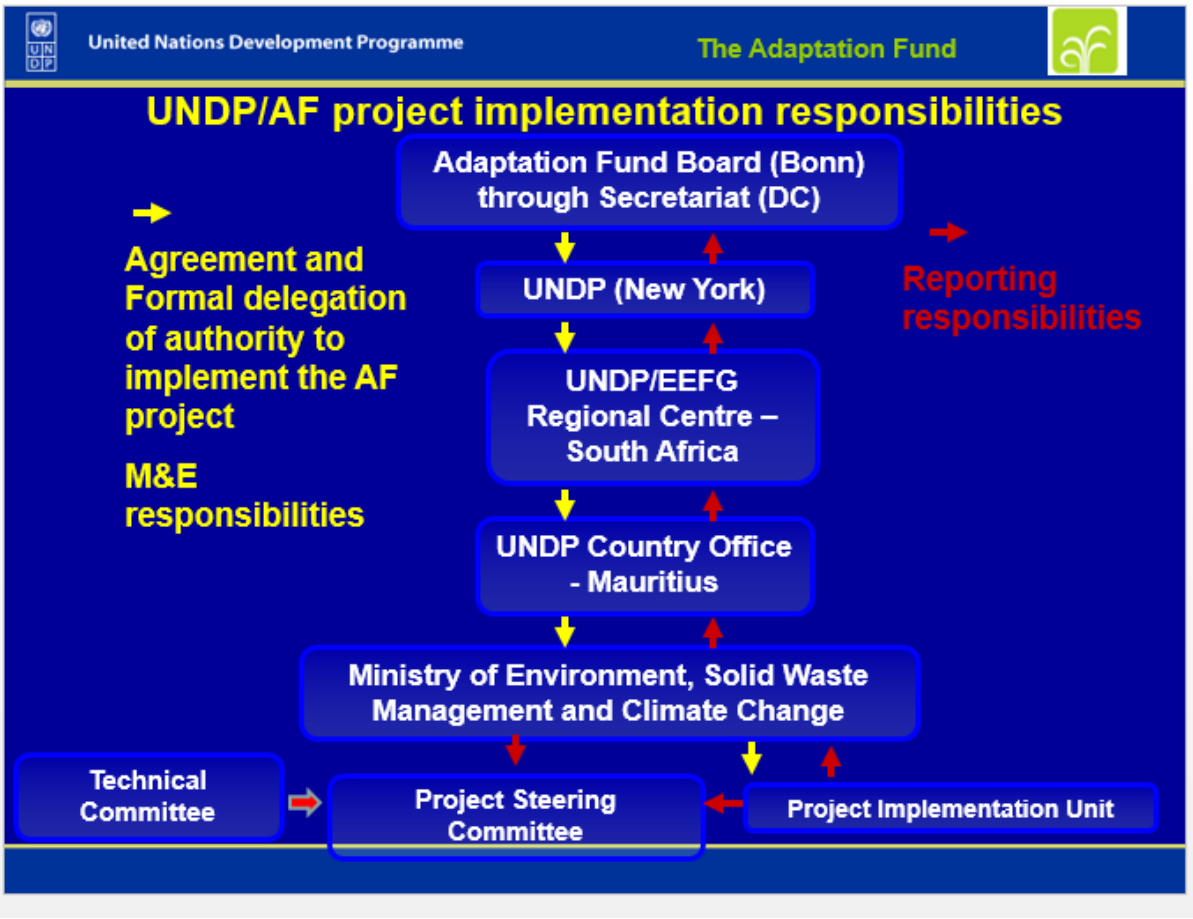
Mrs D. Ng	National Project Director:
Mr S. Mooloo	National Project Director (Alternate)
Mr M.N. Khedah	Project Manager (2012-2018)
Mr S. Boolkah	Project Assistant, ACCA, MIPA Member
Ms E. Tsang Mang Kin	Project Technical Assistant (2014-2018)

New Project Monitoring Team (November 18 to Date)

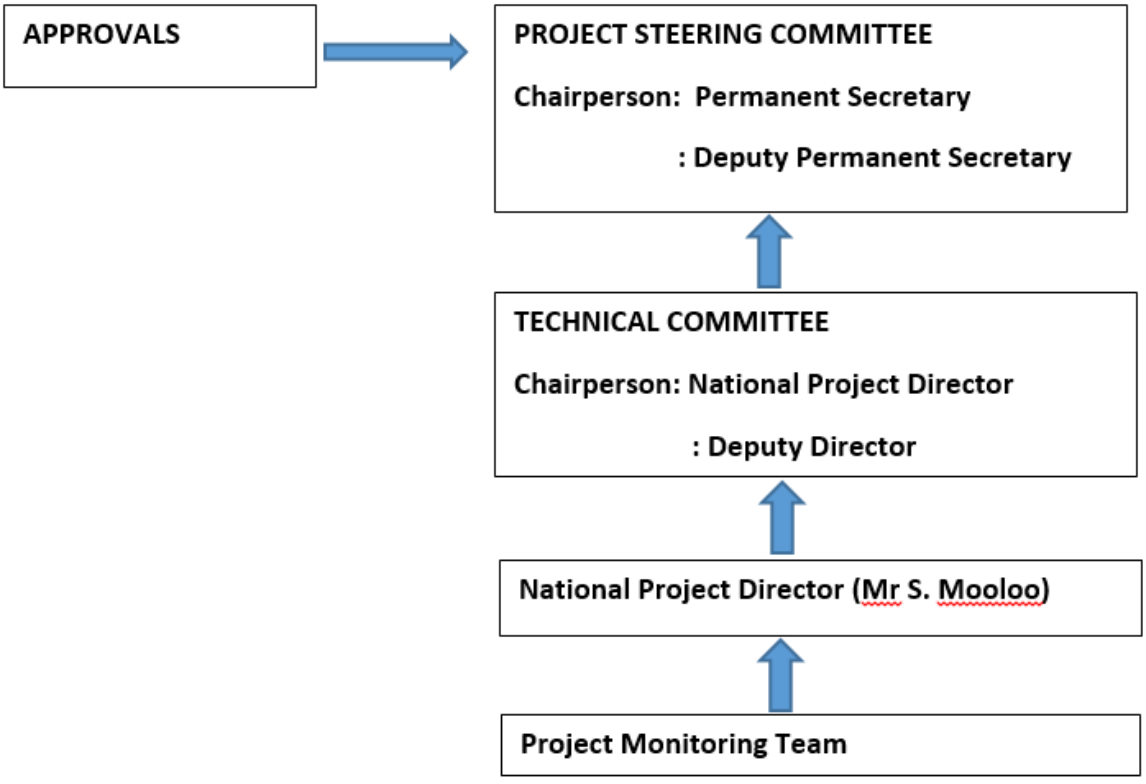
Name	Department/ Division	Responsibility	Tasks	Project Site
Mr S. Boolkah (Project Assistant) ACCA, MIPA Member	Adaptation Fund Project	Overall day to day coordination of the project	To ensure timely delivery of the overall project components	Overall project
Mrs P. Sairally (Project Officer)	Living Environment Unit	Liaison with Desai & Associates Ltd	To ensure constant liaison with the consultant to monitor progress of works	Mon Choisy beach
Mr B. Beerachee (Ag. Director)	Solid Waste Management Division	Liaison with Luxconsult (Mtius) Ltd	To ensure completion of rock revetment and parapet wall project	Riviere des Galets

Name	Department/ Division	Responsibility	Tasks	Project Site
Mr. M. Jeelall (Project Manager)	Living Environment Unit	Liaison with Mega Design Ltd	Asphalt, parking and drainage works to be completed at the Refuge Centre	Quatre Soeurs Refuge Centre
Ms. A. Ramcharrun (Environment Officer)		Will act as Project Technical Assistant	To provide support and assistance in various aspects of administrative and financial management of the project	Overall project
Other Supporting Divisions	Coordination and Project Implementation Divison, ICZM and Climate Change Divisions	Overall coordination of the project	To provide technical support to the project	Overall project

Donor Reporting line



Reporting Line of Ministry



Other Project Information

Financial Audit: 6

Project Steering Committee: 22

Technical Committee: 26

Partnerships: 3 Memorandum of Agreements (MOA) Signed

1. MOA with Grand Sable Fishermen Association
2. MOA with Grand Sable Women Planters Farmers Entrepreneur Association
3. MOA with University of Mauritius

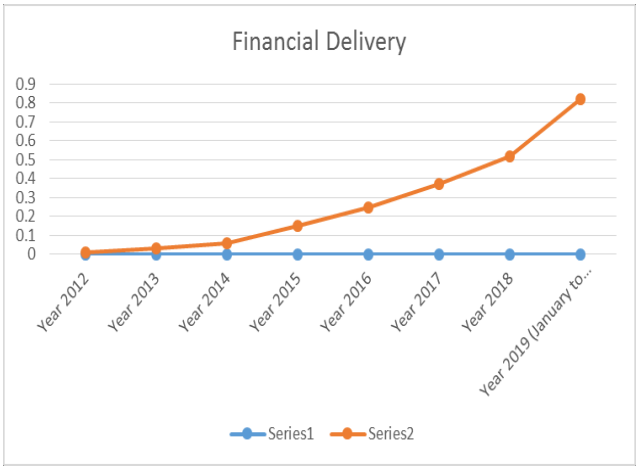
Partnerships: 7 Memorandum of Understandings (MOU) signed

1. MOU with Mauritius Meteorological Services
2. MOU with University of Mauritius
3. MOU with Reef Conservation Mauritius
4. MOU with Rodrigues Regional Assembly
5. MOU with The Attitude Foundation
6. MOU with Stichting Deltares and UNESCO-IHE
7. MOU with Rogers Foundation and Reef Conservation

Financial Delivery

<u>% Financial Delivery on AF Grant (USD 8,404,830)</u>

Year 2012	1%
Year 2013	3%
Year 2014	6%
Year 2015	15%
Year 2016	25%
Year 2017	37%
Year 2018	52%
Year 2019 (January to December)	100%



Component 1

Construction of a Refuge Centre at Quatre Soeurs

Key Facts

- **Mauritius first SIDs to own a dedicated Refuge Centre that will help increase resilience in face of climate change**
- **Fully furnished building of an approx. area of 1000 m^2**
- **Capacity for approx. 1000 people**
- **Land extent of 3A04P**
- **Compliant with SDG No.13-Climate Action**

The Coastal Communities at Quatre Soeurs and neighbouring areas are located in a low lying area and highly at risks of flooding due to high tides, storm surges and other calamities.

The coastal community is sandwiched between the lagoon, the coastal road and a mountain range and vulnerable to coastal inundation and landslide.

The livelihoods of the community are further exacerbated by the adverse effects of climate change, which could lead to more complex environmental and social consequences in the future.

The project has been undertaken to demonstrate best adaptation practice in respect of mitigating measures in face of the effects of Climate Change.

The Refuge Centre of an approximate area of 1000 m^2 resilient to flooding and coastal inundation will serve as an emergency escape haven for the vulnerable community in cases of natural disasters.

Objective

The objective of the programme is to increase climate resilience of communities and livelihoods in coastal areas around Quatre Soeurs through the application of adaptation measures to protect currently vulnerable coastal ecosystem and community features.

Visit by UNDP at Quatre Soeurs

A holistic approach has been taken to cater for the population in the south-eastern coast ranging from Pointe aux Feuilles to Grand River South-East.

The Option to use the Refuge Centre as a Multi-purpose Complex

The building may also serve as a Multi-purpose complex under normal circumstances.

Furnishing Items of Refuge Centre

- Foldable beds (100)
- Cot for babies (10)
- Disposal covers/blankets (300)
- Separators/partitioning mounted on wheels-movable type (20)
- Foldable tables (25) with Foldable chairs (8)
- First Aid Kits (10)
- Disposable bins (50)
- Portable AM/FM Radio Sets (5)
- Digital information display screens (2)

Key Features in the Refuge Centre

- Early Warning System
- Standby Generator
- Fire Alarm System
- Public Address System
- Demand Controlled Ventilation via CO2 sensors
- LED Luminaires and Accessories
- Rainwater Harvesting System
- Natural light

Original Site

The initial project site, as prescribed in the AF Project document was located in a low lying area, near the coastline of Quatre Soeurs. The site was **not** appropriate for construction due to its location in an inundation prone area and the limited extent of land available and limited access.

The original project required demolition of an existing building (Community Health Centre) and construction of a Refuge Centre on piles.

Original Site Review

The original project was reviewed by the Technical Committee. An alternative site on higher grounds at Quatre Soeurs based on a site selection matrix was identified.

Land Acquisition

A plot of land of an extent of **3A04P** owned by Ferney Ltd was acquired by the Government of Mauritius in **June 2015** at a cost of Rs 9,940,000. The land acquisition represented Government in-kind contribution to the project.

The Consultants

Mega Design in association with Design Forum, STEGET, SEE Engineering Consultants Co Ltd and Chuttur & Partners Ltd

- The consultancy services was launched in February 2015
- The contract for consultancy services was awarded to Mega Design in association with Design Forum, STEGET, SEE Engineering Consultants Co Ltd and Chuttur & Partners Ltd on 06 July 2015.

The Contractor

Best Construct ltd

- The bid document for Construction of the Refuge Centre, Drainage System and Ancillary Works at Quatre Soeurs was launched on 4th April 2016.
- The contract for construction works was awarded to Best Construct ltd on 22 July 2016.

Contract Value:

Rs 43,563,951.62, VAT inclusive

Progress of Works

- Handing over of site: July 2016
- Construction start date: August 2016
- Site Mobilization and establishment
- Piling Works: Completed
- Building Works: Completed

Reports Produced

- Inception workshop Report
- Detailed technical assessment/Survey of site Report
- Environment Impact Assessment Report
- Architectural Design
- Bid Document
- Geo-technical investigation Report
- Building maintenance
- Evacuation plan
- Report on landslide

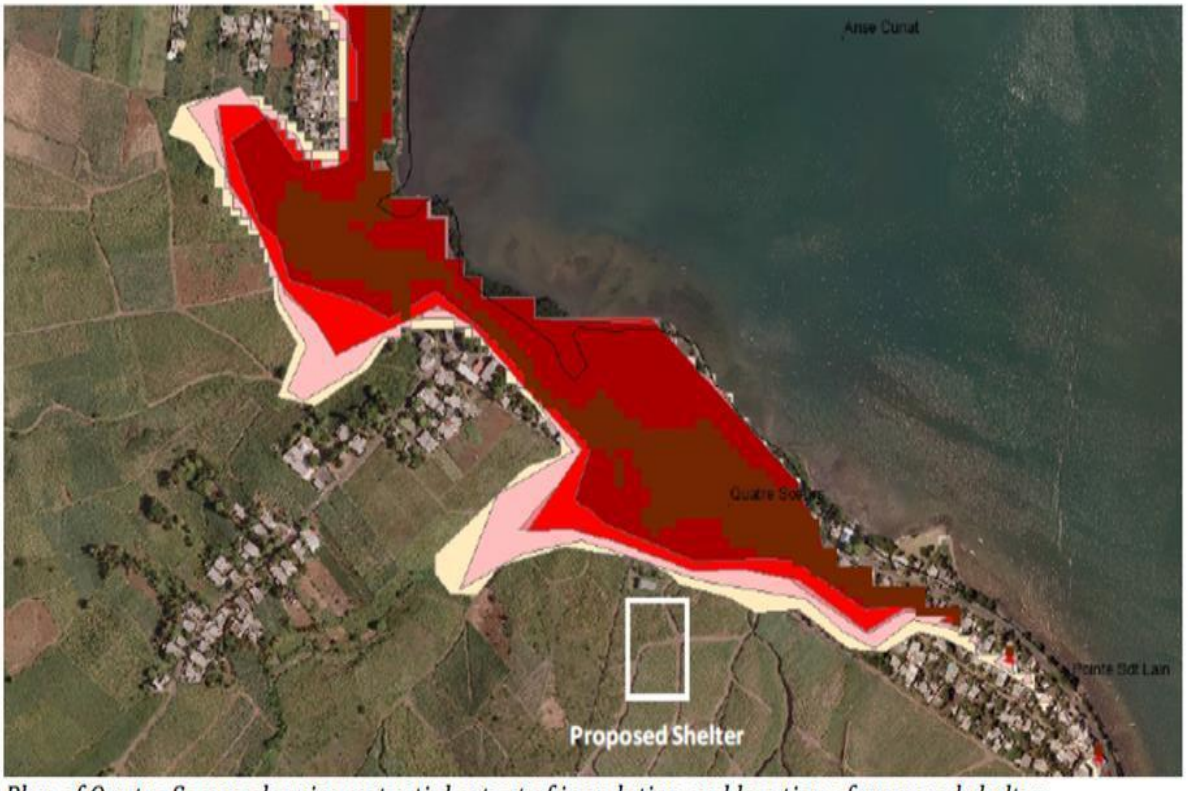
Evacuation Drill Exercise

A Storm Surge evacuation drill exercise was carried out in January 2016 in the village of Quatre Soeurs. The drill was led by the National Disaster Risk Reduction Management Centre, with the collaboration of the Local Authority, Stakeholders and the coastal communities of the region.

The various projects implemented under the Adaptation fund Project (listed hereunder) showcase the disaster risk reduction initiatives undertaken by the Ministry and the linkages:

- Early warning system for storm surges for the Republic of Mauritius
- Construction of a Refuge Centre at Quatre Soeurs
- Construction of a sea defence wall at Riviere des Galets
- A simulation drill exercise at Quatre Soeurs in collaboration with the National Disaster Risk Reduction Management Centre

Evacuation Plan for Quatre Soeurs



Plan of Quatre Soeurs showing potential extent of inundation and location of proposed shelter

Photo Album of the Evacuation Drill

<table>
<tr><td> 
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<tr><td>Assembly point</td><td>Drill for Disaster Response</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Evacuation of Elderly People</td><td>Location of Refuge Centre</td></tr>
<tr><td colspan="2">  </td></tr>
<tr><td colspan="2">First Aid</td></tr>
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PROGRESS PICTURES

Original Site

Site Clearing

Piling works ongoing.

Piling works completed.

Construction of lower ground beams.

Casting of Lower Ground Floor Slab.

Start of construction of the Hall Area.

Construction of Hall Area.

PROGRESS PICTURES

Casting of Hall Area Completed.

Refuge Centre on 31.10.17

Rainwater Harvesting System.

Provision of glass blocks and large openings to maximize sunlight luminosity.

Construction of Garbage Bin

Disable Toilet

Construction of Garbage Bin

Construction of Handrail and footpath

Completion of floor tiles and installation of Glass block

Installation of Aluminum Openings

Construction of access Ramp

Wave Breaker masonry wall

PROGRESS PICTURES

Generator

Rainwater harvesting tank

Installation of Air handling Unit

Installation of Solar Water heater

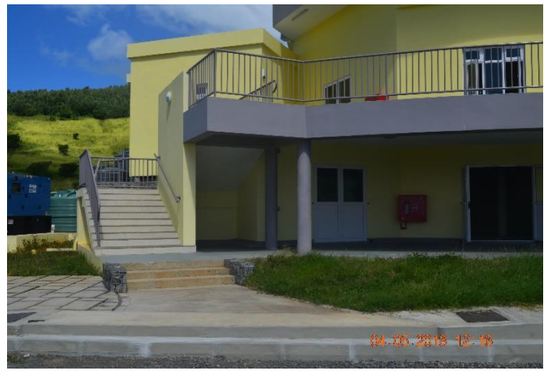
Access footpath infront of the building

Grating

Access road

Access road next to the chapel

Ramp to ease access to the refuge centre

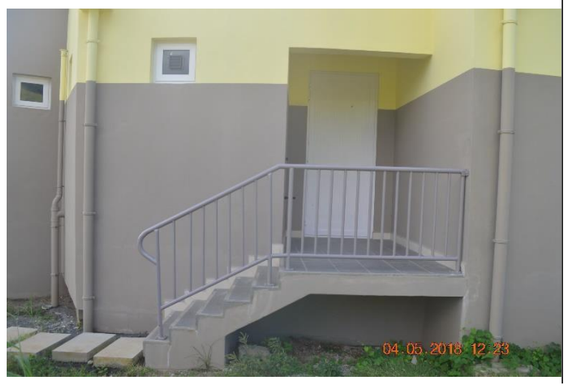


External Staircase

Front view of Refuge Centre

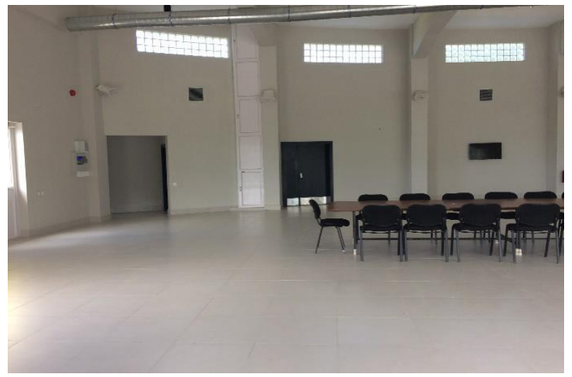
Back view of Refuge Centre

Back view of the building



Emergency exit

Hall area



Hall area

Front view of Refuge Centre

Asphalted access road next to chapel

Asphalted front access road

Construction of Parking Area

Construction of parking area

Hall area

Water pump installations

Visit by National Project Director, Mr Mooloo

Village Drain Outlets before Intervention

Offsite drainage work at Rivulet

Offsite drainage work at coastal work B28

Offsite drainage work at coastal work B28

Parking Area and Fencing

Parking Area and Fencing

Village View from Refuge Centre

Repainting of Refuge Centre

Component 1

Coastal Adaptation Works at Mon Choisy

Mon Choisy Beach severely affected by erosion

Key Facts
Introduction of a new technology Artificial Reef first time in the Republic of Mauritius
Restoration of 450 m of Public Beach
Installation of approx. 900-1000 units of artificial reefs in the lagoon of Mon Choisy
Maintaining annual total economic activities of the beach Net worth: USD 80 million
Compliant with SDG No.13- Climate Action

The current situation at Mon Choisy beach is exposure to incoming waves and swell, due to lack of protective natural structures such as coral patches and ongoing widening of cuts in the barrier reef. The beach is losing about 1-2 metres of beach width per year due to

failure of reef function and increasing sea levels.

As stated in the AF Project document, Mon Choisy beach would be at risk of disappearing over the next 10-15 years if no sustainable solution to the beach erosion implemented. The adjacent coastal road and buildings would then follow.

The Project

This Ministry in collaboration with the UNDP has implemented a coastal rehabilitation project to address the beach erosion prevailing over an extent of 450 metres at the Mon Choisy Public Beach.

Main Objective

The objective is to protect the shoreline of Mon Choisy beach and also test innovative coastal protection and adaptation measures. Upon successful completion same may be replicated to other coastal sites in Mauritius and also serve as lessons learnt for SIDs countries.

The annual total economic value of the Mon Choisy Beach is more than Rs 3 Billion (USD 80 million) per year, making the beach one of the most valuable public beaches in Mauritius.

From studies conducted under the AF Project, it is estimated that a total of 418,000 visits to Mon Choisy public beach occur in a year

Scope of Works

- Installation of 995 artificial reef units ranging from (Diameter 2.1m and height 1.8 m) to (Diameter 1.8m and height 1.3 m) -**Completed**
- Beach re-profiling over 450 metres involving removal of 215 casuarina trees-**Completed**
- Beach Embellishment Works including planting of sand binding plants-**Completed**
- Rock Groyne removal 250 m^2-**Completed**

Artificial Reef Units (Bombora

Project Value: Rs 79,746,389 (Excl. VAT)

Expenditure to date: Rs 78,830,415 Million (Excl. VAT)

Project Duration: 10 December 18 to 09 December 19

Bids launched: 16 March 2018

Closing Date: 09 May 2018 @ 13 30 Hrs (**3 bids received)**

Bid Evaluation by Central Procurement Board: Completed

Contract Award: 10 August 2018

Contractor: JV Sotravic/Subcon (Ministry contract-10 August 2018)

Supervision of Works: Desai & Associates Ltd

Ongoing additional Works under budget savings of Rs 11 Million: Solar lighting, benches, bins, additional 9o artificial reef (Payments already effected under Contractors Bank Guarantee)

Procurement of International Consultancy Services

The Expression of Interests for procurement of consultancy services was launched in December 2012. 19 bids were received

Request for Proposals for Procurement of Consultancy Services

The First Round of Procurement for Request for Proposals was launched in April 2013. However, the price submitted by the best evaluated bidder was **275% higher** than the original estimate in the project document.

The State Law Office and Procurement Policy Office were approached by the Ministry for advice on financial negotiations with the selected bidder. The Ministry was informed in September 2013 that this was **not** good procurement practice and may therefore **not** be legally in order.

Budget Revision

The budget for the project was subsequently revised and the budget revision was approved by the donor agency 'Adaptation Fund Board' in **May 2014**.

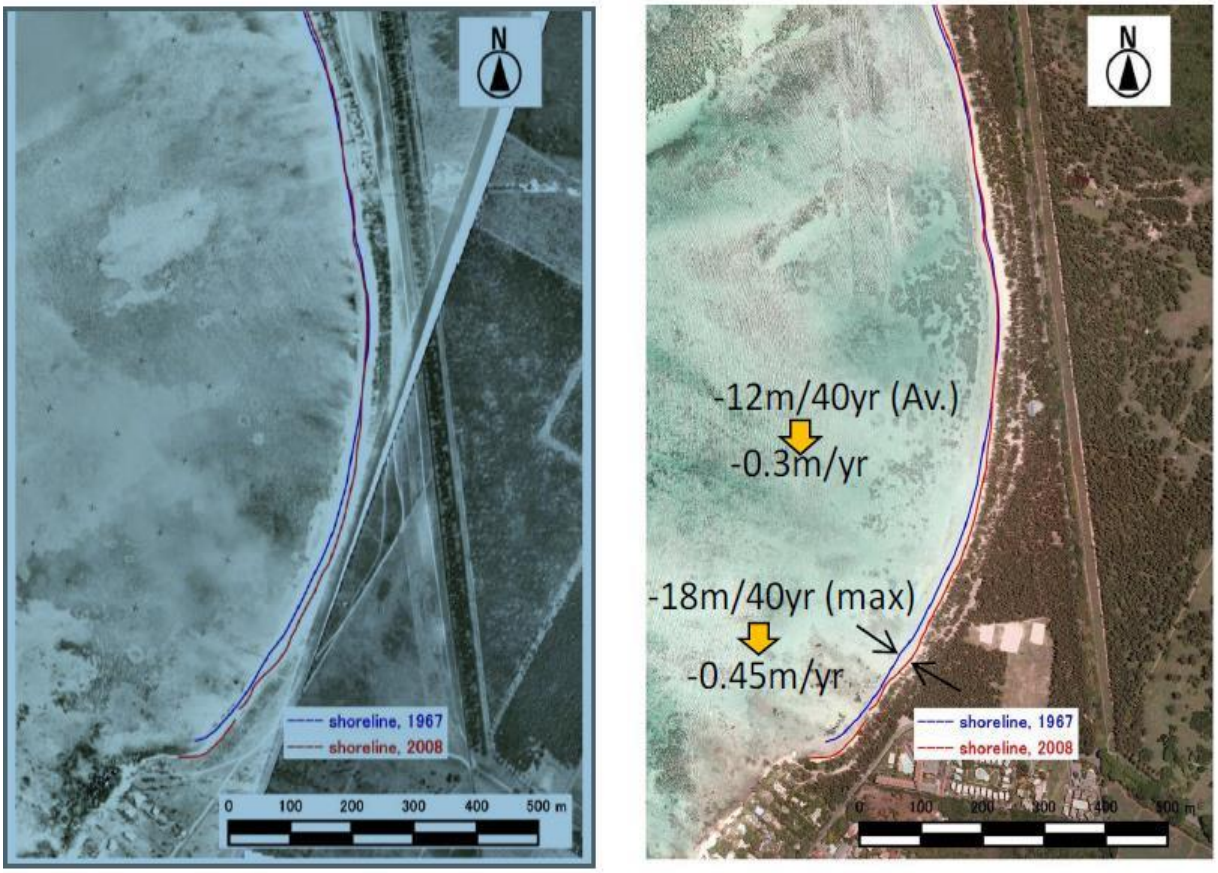
Second Round of Procurement using UNDP Platform

A second round of procurement using the UNDP Platform was approved by the Project Steering Committee in December 2013 and the Consultancy Services for Coastal Adaptation Measures at Mon Choisy and Riviere des Galets was awarded to **Indufor Oy in consortium with Ecoast and C.L.A.M.S ltd** in September 2014 for a contract price of USD 817,850 exclusive of VAT.

Reports Available

• Detailed Technical Assessment • Options for Coastal Adaptation including cost/benefit analysis • Feasibility Study • Design Report • Bid Document	• Environment Impact Assessment Report • Social Impact Assessment Report • Progress Reports • Environmental Monitoring Plan • Environmental Monitoring Reports

Mon Choisy Beach Shoreline position from 1967 (left) to 2008 (Right)



Source: JICA

Consultations with Registered Fishermen of Mon Choisy Region

Moderator: EIA Consultant & Mr Boolkah

Actual View of Mon Choisy Public Beach

The installation of the Artificial Reef

Youtube link to access video: https://youtu.be/0j3Ft1fioa8

Visit of the Artificial Reef by UNDP Resident Representative

Component 1

Coastal Adaptation Works at Riviere des Galets

Key Facts
Protecting 350 People living on the sea frontage at Riviere des Galets from flooding due to Storm Surges
One of the biggest coastal adaptation project in Mauritius
20,000 m3 of basalt rocks of 1-1.5 Tons used for the Rock Revetment
Compliant with SDG No.13-Climate Action

The current situation at Riviere des Galets is exposure to incoming waves and swells due to lack of protective natural structures such as coral patches and ongoing widening of cuts in the barrier reef. A total of 350 people, 97 families living on 46 housing plots were at risk of flooding during storm surges. In the past, 3 extreme weather events caused by strong southern ocean swells occurred in May 1976, May 1987, May 2007 and April 2018 and affected the inhabitants living on the sea frontage at Riviere des Galets.

Original Site

The Project

The Construction of a Rock Revetment Structure over a length of 430 Metres with Parapet Wall at Riviere des Galets to protect 350 People living on the sea frontage at Riviere des Galets from flooding due to Storm Surges.

Contract Value: Rs 28,977,556. 25, excl. VAT

Scope of Works

- Construction of a Rock Revetment of length of 430 metres
- Construction of a concrete parapet wave-return wall
- Walkway landward of the structure
- Installation of solar lighting
- landscaping works

Visit by Amanda Serumaga, UNDP Resident Representative at Riviere des Galets

The Design Consultant: Indufor Oy

Supervision of Works:

Luxconsult (Mtius) Ltd

The Contractor: Super Builders Co Ltd

- Award of Contract: 03 May 2017
- Handing Over of Site: 19 May 2017
- Start of works June 2017
- Project Completion date: January 2019

Reports

• Detailed Technical Assessment • Options for Coastal Adaptation including cost/benefit analysis • Feasibility Study • Design Report • Bid Document	• Environment Impact Assessment Report • Progress Reports • Environmental Monitoring Plan • Environmental Monitoring Reports

Relocation Option for Riviere des Galets

Key Facts
Target Population: 350 People
Relocation Cost: Rs 300-400 Million
53.3% willing to relocate under a managed retreat
38.3% willing to relocate subject to conditions
8.3% of households <u>not</u> willing to relocate at all

Public Consultations and surveys were held under the Adaptation Fund Project since 2013 in view of a relocation project which is the ideal long term sustainable solution for the vulnerable communities living at Riviere des Galets.

Main Constraints

- Cultural ties (will not move at all)
- Inadequate compensation for existing infrastructure and extent of land offered by the Government of Mauritius.

Land Acquisition Process

A site owned by St Felix (5 acres) adjacent to the village of Riviere des Galets had been identified for the relocation project.

Due time constraints under the Adaptation Fund Project and to ensure safety and security of people living on the sea frontage at Riviere des Galets, the Rock Revetment Structure over a length of 430 Metres with Parapet Wall was constructed by the Ministry.

BEFORE

AFTER

Progress Pictures

Initial Site Condition.

Initial Site Condition.

Setting out of Parapet Wall.

Construction of Protective Rock Berm

Construction of Vehicular Driveway.

Housing Units adjacent Sea Frontage

Rock Revetment CH 350 - CH 425

Progress Pictures

Formwork for 1st lift of Parapet Wall.	*1st lift parapet wall casted and Formwork for 2nd lift.*	 *Formwork for Parapet wall from CH 24 - CH 278*
 *Rock Revetment CH 0 - CH 25*	*Parapet Wall from CH 24- CH 278.*	

Progress Pictures

Parapet wall

Rock embankment

Rock embankment

Component 1

Mangroves Plantation Project

Mangroves at Grand Sable

Key Facts
A Project implemented by the Fishermen Community
3 Nurseries set up
20,000 mangroves planted
Extent of 1 hectare along coastline
Compliant with SDG No.13- Climate Action
Scaling up by:
Association de Developement Durable
Attitude Group
ELI Africa

Two Community Based Projects were implemented in the region of Grand Sable;

Project 1: Enhancing resilience in the communities of Grand Sable and Quatre Soeurs to address climate change impacts through creation of a mangrove nursery followed by plantation campaigns and the construction of a flash flood drain.

Implemented by **Grand Sable Fishermen Association** comprising of **60** Members

Budget: USD 35,000 from AFB & USD 30,000 from AUSAID through GEF SGP

Objective: To increase resilience of the vulnerable communities in the region of Grand Sable to the impacts of climate change impacts.

Major Milestones

Mangroves project kick started	March 2013
Collection of 20,000 mangroves propagules	2-3 Weeks
Setting up of 3 mangroves nurseries	2-3 Months
Planting of 20,000 propagules in plastic potting bags	2 Months
Propagation of 20,000 mangroves seedlings in 3 nurseries including watering and replacement	6 Months
Mangroves plantation over an extent of 1 Hectare along the coastal belt of Grand Sable/Petit Sable and Pointe du Diable	1-2 Months
Awareness Campaigns	1 Year
Initial Survival Rate	**90%**

UNDP Recognition

The Mangroves Project was recognized by the UNDP as an excellent example of climate change adaptation that advances conservation and utilizes innovative solutions to develop economic opportunities to empower communities. The UN, through the UNDP, showcased the project at the UN Headquarters in New York in the context of celebrations of the World Environment Day on 5 June 2014. The storyline of the project was also been posted on the website of the UNDP.

DEFENDING AGAINST THE TIDE

The coast of Mauritius is increasingly vulnerable and exposed to the risks of climate change, leaving their societies and economies at risk. The coastal communities are already impacted: bearing witness to land erosion and changes in fish stock that threaten their livelihoods. Faced with the "new" reality of sea-level rise and frequent tidal surges, the local populations of some coastal areas are taking matters into their own hands. They are implementing strategies to adapt and to establish new, climate-resilient approaches to safeguard their future. The inhabitants of the village of Grand Sable, a small planters' community wedged between the mountains and the lagoon, are planting 20,000 mangroves, which serve as natural coastal defence to protect from rising water, flood and lagoon siltation. Local associations have joined forces and are innovating new techniques for incubating and planting mangroves to yield better results.

PROGRESS PICTURES

		
Collection of Propagules	**Mangroves nursery set up**	**Mangroves Plantation**
		
Status 2015	**Sensitisation Campaigns**	**Status May 2018**

	
BEFORE	**BEFORE**
	
AFTER	

Project 2: Enhancing the livelihood of women at Grand Sable in response to climate change impacts

Key Facts
Project showcased at UN SID's Conference in Samoa by Mrs G.F. Aristide, President of Women Association.
Project showcased at COP 21
55 Women empowered
2 Sewing Machines donated
1000 cloth bags produced and distributed
Development of seaweed derived products, soaps, pickles and jams
Vetiver, Ayapana, Citronelle and Cassava Cultivation
Compliant with SDG No.5-Gender Equality
Compliant with SDG No.13-Climate Action

Implemented by: **Grand Sable Women Planters Farmers Entrepreneur Association** comprising of **55** Members

Budget: USD 15,000 from AFB and USD 30,000 from AUSAID through GEF Small Grants Programme

Objective

To empower the women community on alternative income-generating activities and help them mitigate the challenges of climate change and sustain their livelihood.

<u>Achievements</u>

- Mangroves sensitization campaigns held at Primary Schools level and Community level by the women association
- Cultivation of Vetiver, Cassava and other medicinal plants such as Ayapana and Citronelle
- Seaweed cultivation
- 2 Sewing Machines donated to the Women Association for production of cloth bags for distribution during sensitization campaigns

Community based approach

A Community driven approach had been favoured for implementation of these project to enhance resilience of the coastal community in face of climate change. The safeguard of livelihoods and alleviation of poverty of the local communities were also addressed in this project.

Visit by Pradeep Kurukulasuriya from,UNDP Regional Office at Grand Sable

Partnerships

The collaboration of the following institutions were secured during implementation of the project:

- UNDP GEF Small Grants Programme
- Australian AID under AusAID SIDS CBA Programme

2 Information Panels on Importance of Mangroves installed in village of Grand Sable and Baie du Cap

Project winner of Island Bright Spot Award

The Women association won the Island Bright Spot Award as part of the Global Island Partnership 2013 Solution Search out of 37 countries. This Community Based Adaptation Project was showcased at the UN SID's Conference in Samoa in August/September 2014 by Mrs G.F. Aristide, President of GSWPFEA.

GLOBAL ISLAND PARTNERSHIP

LEADERSHIP | COMMITMENT | COLLABORATION | ACTION

Promoting action to build resilient and sustainable island communities

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Alternative Livelihoods Project

"The village of Grand-Sable in Mauritius is highly vulnerable to the effects of climate change. We've been given an opportunity through this project, which has empowered us to make future progress so as to sustain our livelihoods as well as that of our families today and in the future."

- Mrs. Aristide, Grand-Sable Women Planters Farmers Entrepreneurs Association

Communities in Grand-Sable rely upon agricultural land for vegetable plantations and pasture for livestock; however, poor farming practices and improper knowledge of land maintenance, coupled with heavy rains, soil erosion, waterlogging, and higher annual temperatures, create poor growing conditions for crops and present a threat to community livelihoods.

To combat these threats and improve security for members of the community, the Grand-Sable Women Planters Farmers Entrepreneurs Association sought solutions in diversified or alternative livelihoods. Sites were selected via a Vulnerability Reduction Assessment (VRA), which engaged the community in evaluating its vulnerability to risk and openness to sustaining the project. Households in chosen sites were then educated in alternative livelihoods, which include seaweed farming and the development of seaweed-derived products, the cultivation of Vetiver (a flood-mitigating crop) and other medicinal plants and roots, and small-scale household waste composting.

Component 2

Early Warning System for incoming Storm Surge in Republic of Mauritius

A fully automated Early Warning System (EWS) for Storm Surges has been implemented and operational at the Mauritius Meteorological Services since August 2015. This EWS which provides 3 days probabilistic forecast for surges every 6 hours on a continuous basis enhance the level of disaster preparedness in our vulnerable coastal zone.

The Republic of Mauritius is the first Small Island Developing State to have a fully operational Warning System for Storm and Tidal Surge. The EWS was jointly implemented in collaboration with the Mauritius Meteorological Services.

Key Facts

The Republic of Mauritius is the first Small Island Developing State to have a fully operational Warning System for Storm and Tidal Surge.

EWS provides 3 days probabilistic forecast for surges every 6 hours

Protection to approx. 266, 957 coastal communities from storm surge

Compliant with SDG No.13- Climate Action

The International Consultants

The consultancy services for development and implementation of the Early Warning System for Storm Surge in Mauritius was awarded to Stichting Deltares from The Netherlands in November 2014. The project was successfully completed over a period of ten months.

Sustainability of the project

In view of ensuring the sustainability of the project in relation to capacity building, technical support and technology transfer for a more effective use of the numerical model of the EWS, a Memorandum of Understanding (MoU) between this Ministry, Stichting Deltares and UNESCO-IHE was signed on 20 January 2016.

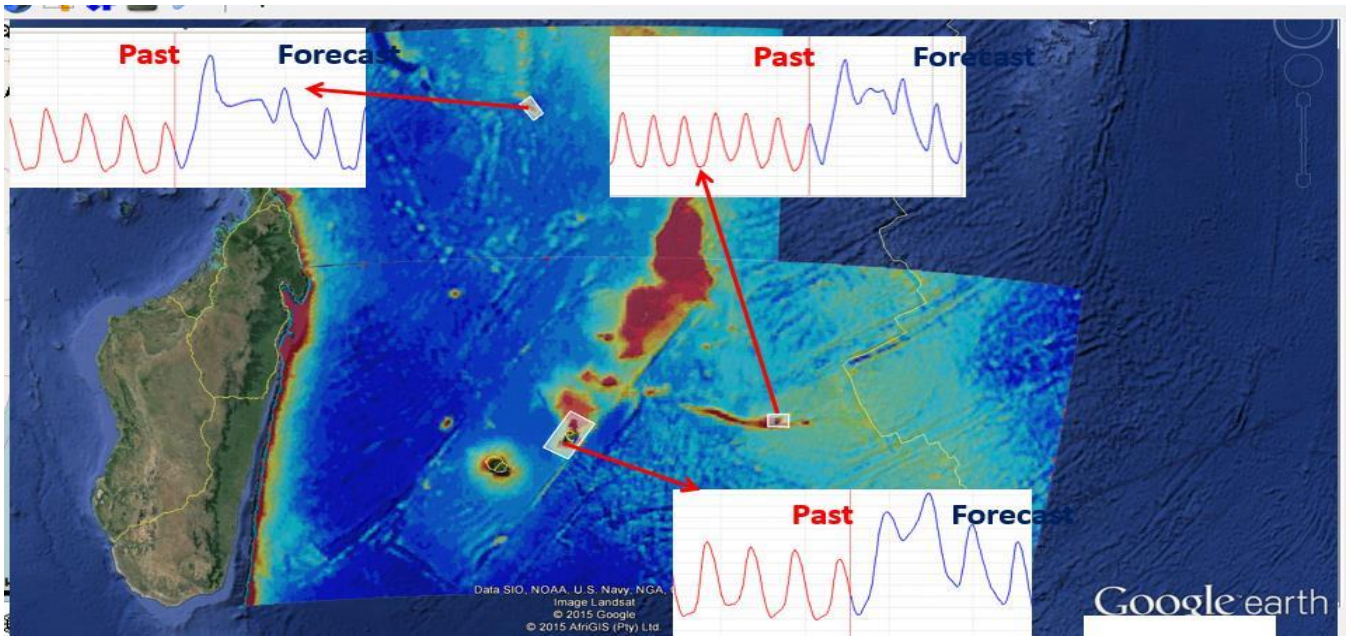
The purpose of the MoU was to secure technical assistance in terms of research and capacity building for coastal zone adaptation and operation of the Early Warning System for storm and tidal surge.

Extension of the EWS to include the wave component and wave run-up inland

In view of achieving a greater impact and increasing resiliency of the island state of Mauritius, the EWS was further enhance to include the wave, swell and inundation component.

Visit by UNDP at the Meteorological Services

This extension will enable better and timely issue of warnings such that coastal communities in the Republic of Mauritius including Rodrigues and Outer Islands are able to evacuate safely in case of storm and tidal surge.



Mauritius Early Warning System

The Early Warning System for Storm Surge operational at the MMS will lead to a reduced exposure for a larger coastal communities, approx. 266, 957 *(Housing and Population census 2011)* to climate related hazards in particular storm surges.

Reports Produced

- Inception workshop Report
- Technical assessment Report
- System Design Report
- Specifications for hardware/equipment
- Service letter agreement-BASE Platform Project
- Training materials
- Completion Report
- 1 Flyer on EWS for Storm Surge

The Ministry of Environment, Sustainable Development, Disaster and Beach management of Mauritius

The Mauritius Meteorological Service

ADAPTATION FUND

Deltares

Enabling Delta Life

Implementation of an Early-Warning System for incoming storm surge and tide in the Republic of Mauritius

Summary

The Republic of Mauritius is the first Small Island Developing State (SIDS) in the Indian Ocean with its own tide and storm surge Early-Warning System for improving preparedness and resilience to events like cyclones.

The EWS was implemented in the context of the Climate Change Adaptation Programme in the coastal zone of Mauritius to increase the climate resilience of the coastal communities and funded by the Adaptation Fund.

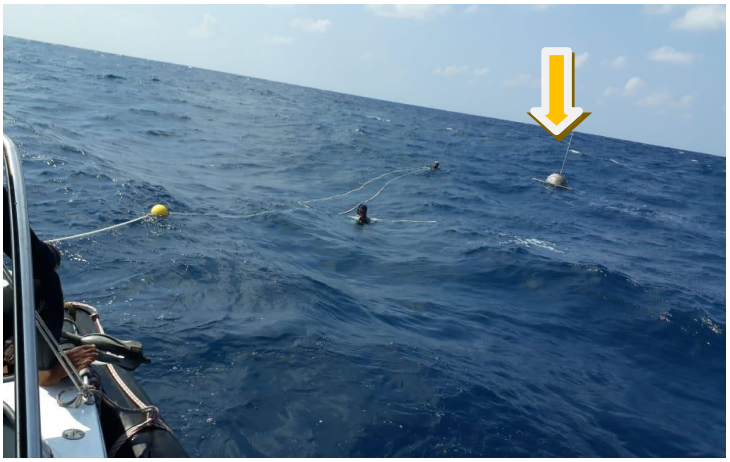
The storm surge model was developed together by Deltares and the Ministry of Environment, Sustainable Development, Disaster and Beach Management. It predicts where and when a storm surge is to be expected. Mauritius Meteorological Service (MMS) in Vacoas, Mauritius

Introduction

The Republic of Mauritius (ROM) is a group of several islands in the South West of the Indian Ocean, where some of these islands are located at distances greater than 350 km from the main island. As a Small Island Developing State (SIDS), the ROM is particularly

Procurement of 3 wave Rider Buoys for the Republic of Mauritius

In the context of the Adaptation Fund Project **3** wave rider buoys were procured for the Republic of Mauritius as real time observations are critical for proper validation of the Early Warning System and real time wave data important for proper running of the system.



The procurement of the 3 wave rider buoys was undertaken by the Meteorological Services and the deployment at sea by the National Coast Guard under the supervision of an engineer from Supplier Firm, Datawell BV, The Netherlands.

Note: The only Wave Rider available for the RoM was defective and not operational prior to this project.

	Deployment location	**Status**
Wave Rider No.1 (Mauritius)	Off the reef of Blue Bay	**Completed** Installed and operational. The wave rider is providing real time wave data to the early warning system for storm surge
Wave Rider No.2 (Mauritius)	Off the western coast in the region of Baie du Tamarin and Baie de la Grande Riviere Noire	***Ongoing*** *Awaiting 1 additional wave rider receiver from Datawell BV, The Netherlands*
Wave Rider No.3 (Rodrigues)	Rodrigues Island	**Ongoing** The MMS has informed the Rodrigues Regional Assembly about the deployment and cost implications. RRA reply is awaited.

Deployment of Wave Rider in the region of Blue Bay by NCG, MMS and International Consultant Datawell BV, The Netherlands

Component 3
Training and Capacity Building

In the context of the Adaptation Fund Project, a Memorandum of Understanding was signed in 2014 between the Ministry and University of Mauritius for design and delivery of a series of short professional development courses in the field of coastal engineering, cost-benefit analysis and climate Change.

The trainings were conducted from 2013 to 2016, in collaboration with local experts and international resource persons.

Key Facts

13 Short CPD Courses delivered

500 participants trained

4 Training Manuals developed

Compliant with SDG No.13- Climate Action

13 Short Professional Development Award Courses delivered

During the course of the project, 13 Short Professional Development Award Courses were conducted both in Mauritius and in Rodrigues in the field of Coastal and Marine Environment for Engineers, Coastal Engineering, Cost-Benefit Analysis of Coastal Adaptation Measures, Ocean Data Collection and Analysis, Climate Change and Coastal Zone Management, Open Source Geospatial Tools, Disaster Risk Reduction in the Coastal Zone of Mauritius, Integrated Coastal Zone Management.

Collaborations with Universities/Institutions

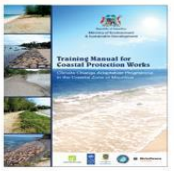
- Worley Parsons of South Africa
- Indian Institute of Technology Madras, India
- University of Western Australia
- Global Water Partnership Southern Africa and the University of Pretoria
- Centre of Environmental Economics and Policy in Africa (CEEPA) South Africa.
- University of Southampton, UK
- The University of Mauritius
- Boomerang Geospatial
- TACSYM LTD training Specialist

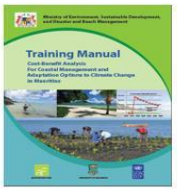
500 participants (350 Male and 150 Female) from the private sector, local authorities, Ministries/departments were trained in Mauritius and Rodrigues and received a Certificate of Participation.

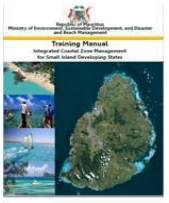
Training Manuals Developed

4 Training Manuals were developed under the project as follows:

1. Coastal and Marine Environment for Engineers
2. Coastal Engineering-*Recognized by Council of Registered Profession Engineers of Mauritius*
3. Cost and Benefit Analysis for Coastal Management and Adaptation Options to Climate Change in Mauritius
4. Integrated Coastal Zone Management







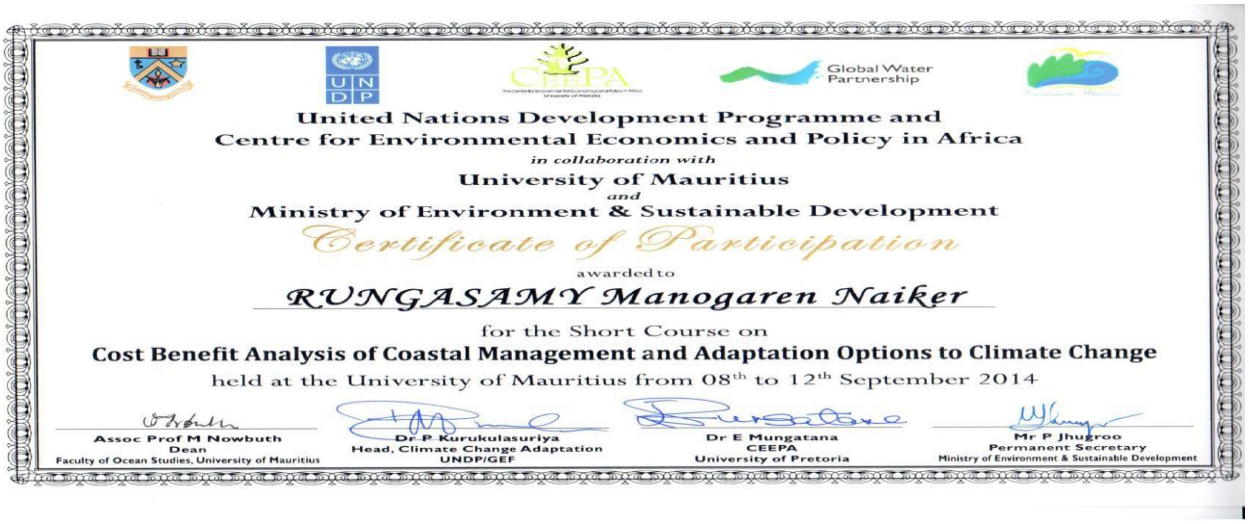
Reports

- Community Emergency Plan Guidance
- Report on Disaster Risk Reduction Course

List of Short Courses delivered from 2012 to 2016

SN.	Details	Date	Beneficiaries
1.	Short Course on Coastal and Marine Environment for Engineers	17-21 September 13	56
2.	Short Course on Coastal Engineering	21-31 October 13	54
3.	Short Course on Cost and Benefit Analysis of Coastal Adaptation Measures	02-11 December 13	41
4.	Short Course on Coastal Adaptation Structures (soft measures) including a case study of Mon Choisy	04-08 August 14	41
5.	Short Course on Coastal and Marine Environment for Engineers (Rodrigues)	15-17 July 14	28
6.	Short Course on Cost Benefit Analysis/Climate Change Economics	08 -12 September 14	38
7.	Short Course on Ocean Data Collection and Analysis	26 -29 January 15	29
8.	Short Course on Cost and Benefit Analysis of Coastal Management and Adaptation Options to Climate Change (Rodrigues)	25 - 27 May 15	42
9.	Short Course on Climate Change and Coastal Zone Management	15-19 June 15	33
10.	Short Course on Open Geospatial tools	21-25 September 15	25
11.	Short Course on Disaster Risk Reduction	13-18 January 16	36
12.	Short Course on Integrated Coastal Zone Management	29 January -05 Feb 16	35
13.	Short Course on Cost Benefit Analysis on Climate Change Initiatives	12-16 September 16	42

Training Sessions



Certificate of Participation

Component 4

Policy Mainstreaming

National Coastal Zone Adaptation Strategy for the Republic of Mauritius

A National Coastal Zone Adaptation Strategy (NCZAS) for the Republic of Mauritius (ROM) that addresses all perceived climate change risks in the coastal zone of Mauritius and Rodrigues to promote and enhance resilience measures has been developed.

Key Facts
Defining a Sustainable and Holistic Strategy for Coastal Adaptation in face of Climate Change
As a planning tool for decision-making
Forecast impacts of changes (development) with time
CVI maps can be updated with new data or Parameters
CVI maps allow efficient decision making for future coastal development
Compliant with SDG No.13- Climate Action

Objective

The NCZAS focus on how to build climate change resilience into existing and future designs for coastal management and beach restoration. This includes the tools to ensure the Republic of Mauritius and Rodrigues (RoM) stakeholders can plan, manage and initiate interventions at the "ridge to reef" scale which includes considering watershed boundaries, intertidal areas, and nearshore coastal habitat rehabilitation in a holistic manner.

This NCZAS provide advice of options for adaptation policies and measures, with maps identifying the most vulnerable coastal areas and systems. An EIA Guidelines has also been produced to support this NCZAS.

The focus of this NCZAS is also to identify ways to ensure that coastal flood and erosion adaptation techniques as well as wider land use developments, can be made resilient against climate change threats in a more cost-effective and socially acceptable way. It provides guidance to ensure that current and future Mauritius and Rodrigues shoreline protection schemes are planned appropriately that can cope with predicted climatic change.

The International Consultant: Jonathan McCue from AGRER S.A-N.V, Belgium

Contract Signed on: 06 February 2017

Workshops

- Inception Workshop-02 March 2017
- **2** consultation workshops were held in Mauritius and Rodrigues
- A Training workshop for the capacity building of the EIA Division and EIA Committee on assessment of coastal projects and their implications was held on 28 and 29 May 2019

Main findings of the National Coastal Zone Adaptation Strategy Report for the Republic of Mauritius

Classification of Coastal Zone of the Republic of Mauritius

Mauritius and Rodrigues's coastline is approximately 322 kilometres in length and provides habitat for many of the nations' living ecosystems including sandy beaches, rocky shores, estuaries, wetlands, seagrass beds and coral reefs. It is also the location for most of the critical infrastructure, formal and informal housing, as well as a high percentage of the Island's economic activities, including tourism, mixed farming and fishing, shipping, and quarrying.

The coastal zone of the RoM has been classified using a 'Ridge to Reef' approach comprising of a combination of nearshore, shoreline and hinterland to assess its vulnerability. Some of the main categories of the coastal zone include; mountain front, beach, rocky shore and mangrove forests.

Coastal Adaptation options

The NCZAS presents different interventions for possible consideration following assessment of nature-based, hybrid and non-structural intervention options to achieve the wider benefits for longer-term sustainability and stability of the shoreline in addition to reducing the environmental impacts.

Intervention Options

Hard Interventions: Breakwater, revetments, seawalls, groynes, land reclamation, gabions, flood barriers, levees, sand bag structures

Nature-based interventions: Beach nourishment/recharge, beach recycling, beach vegetation plantation, coral reef restoration, mangrove restoration, seagrass restoration, wetland management

Non-structural solutions: Managed realignment, watershed planning, setback zones, building codes, stakeholder awareness

Clearing House for the NCZAS

The NCZAS outlines of how the proposed interventions should be linked to existing regulations (environmental and land-use planning) in addition to national building codes. It provides information on a proposed Clearing House to oversee and regulate climate change issues in the coastal zone of ROM.

Reports produced under the Project

Inception workshop Report	EIA Guidelines
Report on Review of Strategies, Policies	EIA Workshop Report
Consultation Workshop Reports (Mauritius & Rodrigues)	Final National Coastal Zone Adaptation Strategy
Report on Options for Adaptation Policies	EIA/SEA Training Manual

Economic Instruments

The NCZAS considers economic instruments as a mechanism for encouraging behavior that will protect the coast, and mechanisms for raising funds with which to finance the investments that may be needed.

Possible Financing Mechanisms on international front

The NCZAS reviewed the following economic instruments for environmental protection and other mechanism used to fund coastal zone adaptation worldwide:

- Environmental taxes, Cap and trade schemes, Environmental fees, payment for environmental services, insurance, Public-private partnerships, debt for nature swaps, blue bonds, lotteries, premium plates or stamps, subsidies, voluntary contributions

The NCZAS also considered which of the above is already applicable in Mauritius and whether it could be investigated further.

Preferred funding options

Mechanism 1: Broaden the base for the existing Environmental Protection Fee; this would have to be combined with the second option.

Mechanism 2: Earmark all or a portion of the EPF (in its current form or a broader version) for coastal zone management, following the procedures now being used for the CSR revenues.

Mechanism 3: Voluntary contributions by hotel guests to an independently managed coastal zone trust.

Recommendations

- Economic instruments, as understood by economists, are not likely to be helpful in creating an incentive for the private sector to take on management of the coastal zone.
- Expanding the base of the EPF to include additional sectors that benefit from or rely on the environment in general and the coastal zone in particular is an appropriate strategy for increasing revenue and reducing private sector opposition to the levy.
- Additional analysis is needed to determine exactly the fee that would be designed for each new sector, particularly how it would be levied on second homes that benefit from proximity to the coast.
- The revenues from the EPF should be 100% earmarked for environmental protection, and a significant share of those levies should be earmarked for coastal zone management in particular. This is essential in order for industry to accept a broadening of the base of the fee. This should be feasible if management of the fee is patterned on the mechanism now being used to manage revenues from the Corporate Social Responsibility levy.
- While voluntary contributions may be an effective way to raise additional funds for coastal zone management, this should be left in the hands of the private sector and NGOs, and should not be managed by government.

Legal Part

The NCZAS also include a review of relevant national strategies, policies, regulations and projects pertaining to the coastal zone in ROM and review of available international best technical and institutional adaptation practices in CZM that can be adapted to ROM.

The observation is that Mauritius has a well-developed body of laws concerning planning for development as well as management of water quality, quantity and allocation; habitat conservation through the establishment of reserves and national parks; and conservation of plants and animals. However, no single law is designed to manage the coastal zone, which is of course not unusual.

Recommendation

- Strengthening the planning system (the non-binding nature of Outline Planning Schemes and Planning Policy Guidance makes the planning framework inadequate for environmental protection)
- Strengthening EIA (by ensuring proper criteria are applied and evaluated substantively, rather than relying simply on completing the procedure).

Three high-level recommendations to be considered with a significant priority

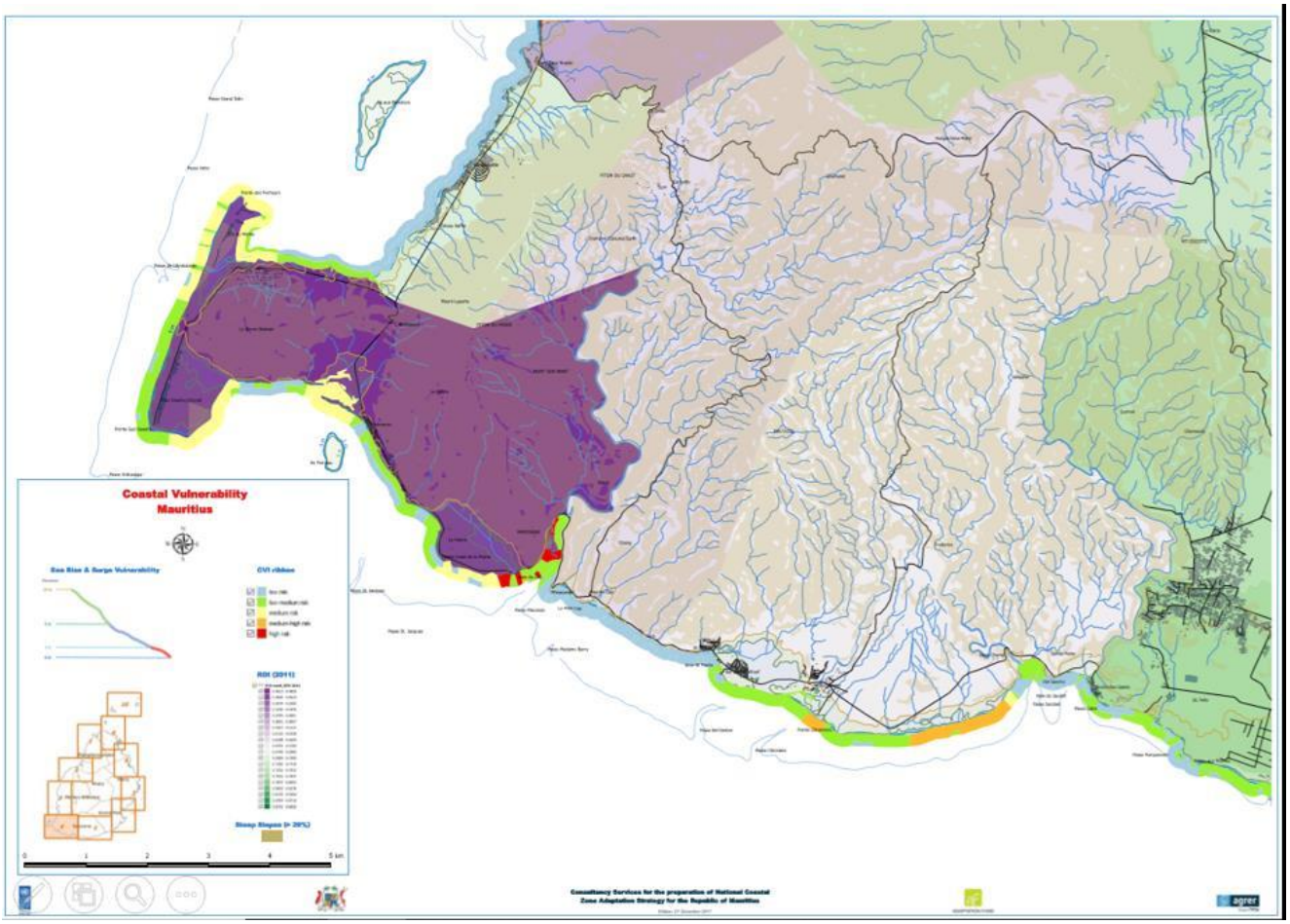
(i) High-level governance mechanism (ii) Strategic environmental assessment (iii) Climate Change Bill

EIA Training Workshop held on 28 and 29 May 2019

Coastal Vulnerability Index Maps

The NCZAS also include Coastal Vulnerability Index (CVI) maps produced based on existing broad scale information only. The CVI methodology has used the following parameters to determine the coastal vulnerability in Mauritius and Rodrigues:

- Risk from sea level rise or storm surge inundation
- Shoreline typology
- Spatial extent of lagoon
- Social vulnerability



Extract of CVI Maps produced under the Project

Key Risk Areas based on above CVI Methodology

Mauritius

High Risk Areas

- Baie du Cap vicinity (La Prairie)

Medium High Risk

- Poine d'Azur
- Pointe aux Cannoniers
- Port Louis (port area)
- Port Louis (Fort William area)
- Bel Ombre (vicinity)

Rodrigues

High Risk Areas

- Port Mathurin (surrounding area);
- Anse aux Anglais;
- Riviere Banane;
- Pointe Cotton (Cotton Bay)

Medium High Risk

- Anse Mourouk;
- Anse Quittor (south of Rodrigues);
- Baie aux Huitres

Component 5

Knowledge Dissemination and Management

Objective

The objective is to develop sensitisation tools to help strengthen public awareness on climate change issues, facilitate frequent and accessible public information on effects of climate change and conduct appropriate interventions especially along the coast, where accelerating sea level rise and increasing frequency and intensity of tropical cyclones will likely result in considerable economic loss, humanitarian stresses, and environmental degradation.

Key Facts

- **Introducing new educational tools for community outreach**
- **Innovative mobile education unit**
- **Electronic Game for Smart Phones**
- **Interactive Climate Change Games**
- **Seven 3D small scale ecosystem models produced**
- **Compliant with SDG No.13- Climate Action**

Massive Sensitisation Campaigns

Memorandum of Understanding

A MoU was signed with Reef Conservation, NGO in September 2014. The MoU was renewed in March 2016 with Reef Conservation and Rogers Foundation Ltd (Private Sector) for joint implementation of this project.

Educational Tools/materials developed since 2014

- Seven 3D small scale ecosystem models for coral reefs, seagrass beds, mangroves and wetlands and 3 interactive climate change models depicting the region of Mon Choisy, Riviere des Galets and SEMPA marine Park.

- 2 magnetic games to be used in the marine mobile education unit 'bis lamer'
- A climate change game electronic game application that can be downloaded on androids and tablets

Public Awareness Campaigns

The public awareness campaigns are conducted in collaboration with Reef Conservation (NGO) in a mobile classroom 'Bis Lamer'. The sensitization campaigns are focused on natural coastal and marine habitats and the effects of climate change, coastal communities, schools, fishermen, women's groups and general public.

15,000 people including school children, NGO's, private sector and women association have been sensitized under the programme in matters of climate change and coastal adaptation using the marine mobile education unit.

Digital Advertisement of 4 Video Clips on Climate Change, Tree Planting, Banning Plastic Bags and Solid Waste Management in Buses around the Islands

Total number of viewers: 3,318,245

Supplier: A Square Enterprise Ltd

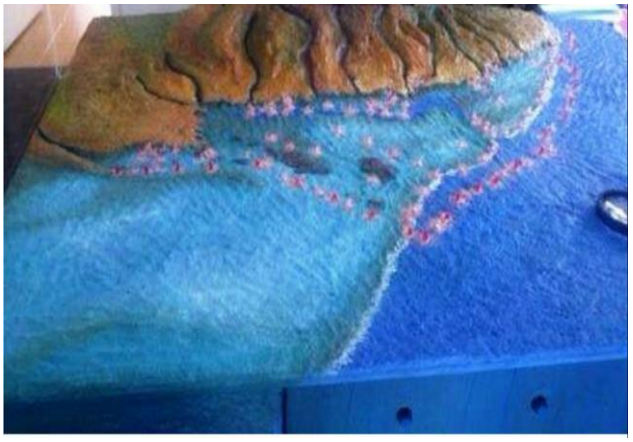
Contract Award Date: 11 June 19

Period: 11 June to 30 August 19

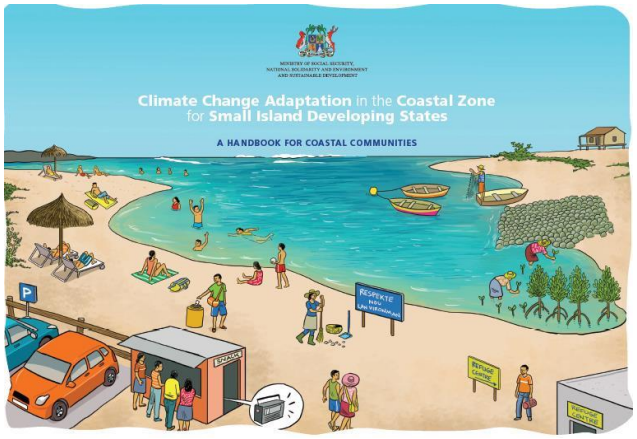
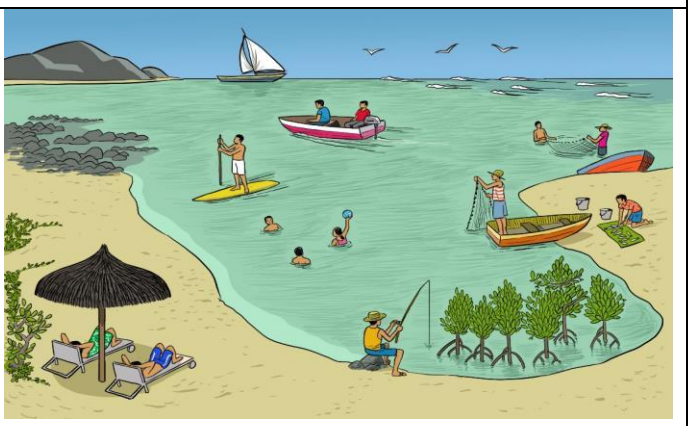
Mass awareness and sensitization campaigns on climate change for the general public through the Mauritius Broadcasting Corporation TV

Period: 18 March to 31 August 19

List of Sensitisation Tools and Materials produced

	
3D Mangrove Ecosystem Model	**3D Wetland Model**
	
3D Seagrass Model	**3D SEMPA Marine Park in Rodrigues**
3D Model for Rivere des Galets	**3D Small scale Bis Lamer**

Magnetic Game	**Quizz Game**
	
3D Climate Change Globe Model	**Electronic Game Application 'Smart Mauritius' – Available on Apple Store**

	
A Handbook for Coastal Communities on Climate Change Adaptation in the Coastal Zone for SIDs	**A Do's and Don'ts waterproof pouch for boat operators and fishermen**
	
Giant Goose Game	**Flash Card including illustrations and Questions**

Sensitisation Campaigns


reef
CONSERVATION


Azalea

	Adaptation Fund Project Steering Committee List of Members
1.	Permanent Secretary- Ministry of Environment, Solid Waste Management and Climate Change **(Chair)**
2.	Representative of Ministry for Rodrigues, Outer Islands and Territorial Integrity
3.	Representative of Ministry of Finance, Economic Planning and Development
4.	Representative of Ministry of Housing and Land Use Planning
5.	Representative of Ministry of Blue Economy, Marine Resources, Fisheries and Shipping
6.	Representative of Mauritius Police Force
7.	Representative of National Coast Guard
8.	Representative of Ministry of National Infrastructure and Community Development
9.	Representative of Ministry of Tourism
10.	Representative of Ministry of Local Government, Disaster and Risk Management
11.	Representative of Ministry of Social Integration, Social Security and National Solidarity
12.	Representative of National Disaster Risk Reduction and Management Centre
13.	Representative of Ministry of Energy and Public Utilities
14.	Representative of Beach Authority
15.	Representative of Pamplemousses District Council
16.	Representative of Riviere du Rempart District Council
17.	Representative of Mauritius Oceanography Institute
18.	Representative of Mauritius Meteorological Services
19.	Representative of Road Development Authority
20.	Representative of UNDP
21.	Representative of Grand Port District Council
22.	Representative of Savanne District Council
23.	Representative of University of Mauritius
24.	Representative of Forestry Services

	Adaptation Fund **Project Steering Committee** **List of Members**
25.	Representative of Association des Hoteliers et Restaurateurs-Ile Maurice
26.	Representative of Mauritius Council of Social Services (Eco-Sud)
27.	Manager Financial Operations, Ministry of Environment, Solid Waste Management and Climate Change
28.	Director, Ministry of Environment, Solid Waste Management and Climate Change
29.	Deputy Director, Ministry of Environment, Solid Waste Management and Climate Change
30.	Divisional Environment officer-Climate Change Division
31.	Divisional Environment officer-Integrated Coastal Zone Management Division
32.	Divisional Environment Officer-Coordination and Project Implementation Unit
33.	Project Monitoring Team-AFB Project
34.	Project Assistant-AFB Project

	Adaptation Fund **Technical Committee** **List of Members**
1.	Director (National Project Director)- Ministry of Environment, Solid Waste Management and Climate Change **(Chair)**
2.	Representative of Ministry of Housing and Land Use Planning
3.	Representative of Ministry of Blue Economy, Marine Resources, Fisheries and Shipping
4.	Representative of Ministry of Local Government, Disaster and Risk Management
5.	Representative of Ministry of Tourism
6.	Representative of Police Department
7.	Representative of National Coast Guard
8.	Representative of Beach Authority
9.	Representative of Mauritius Oceanography Institute
10.	Representative of Pamplemousses District Council
11.	Representative of Riviere du Rempart District Council
12.	Representative of UNDP

	Adaptation Fund **Technical Committee** **List of Members**
13.	Representative of Ministry of National Infrastructure and Community Development
14.	Representative of Ministry of Energy and Public Utilities
15.	Representative of Ministry of Finance, Economic Planning and Development
16.	Representative of Ministry of Agro-Industry & Food Security (Forestry Services)
17.	Representative of University of Mauritius
18.	Representative of Grand Port District Council
19.	Representative of Savanne District Council
20.	Representative of Road Development Authority
21.	Representative of Climate Change Division- Ministry of Environment, Solid Waste Management and Climate Change
22.	Representative of Integrated Coastal Zone Management Division- Ministry of Environment, Solid Waste Management and Climate Change
23.	Representative of Coordination and Project Implementation Unit- Ministry of Environment, Solid Waste Management and Climate Change
24.	Representative of Environmental Impact Assessment Division- Ministry of Environment, Solid Waste Management and Climate Change
25.	Representative of National Disaster Risk Reduction and Management Centre
26.	AF Project Monitoring Team-AFB Project
27.	Project Assistant-AFB Project