Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future

Coral reefs are the foundation of food security and coastal livelihoods in Mauritius and Seychelles. Both artisanal fisheries and the tourism industry are strongly associated with the amount of live hard coral cover. Reefs in the Western Indian Ocean, as elsewhere, have suffered from negative human-induced impacts, in addition to climate-change associated coral bleaching which has caused extreme degradation.

The Adaptation Fund, through a grant of USD 10,000,000, is enabling:

- the enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius and Seychelles; and
- knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration.

This project entails the establishment of coral farming and nursery facilities, the active restoration of degraded reefs, capacity-building and knowledge exchange for long-term sustainable coral reef restoration.

**OUR APPROACH**

- Employment and training are provided to establish and maintain coral nurseries and transplantation sites and regional technical capacity is strengthened for the implementation of coral reef restoration with thermal adapted corals.
- Community and business-based coral reef restoration and farming will be enabled, in addition to improved knowledge of coral reef restoration.
- Full community & business involvement in coral reef restoration; improved livelihoods with increased fish landings & job opportunities; and standardised coral reef restoration in Mauritius, Seychelles and Western Indian Ocean.

**Budget**

| Total | USD 10 M |

**Period**

2020-2026
**OBJECTIVES**

- To improve food security and livelihoods and mitigate disaster risk through active restoration of coral reefs degraded by coral bleaching as a result of climate change in Mauritius and Seychelles in order to restore their essential ecosystem services.
- To generate knowledge and understanding about the use of coral reef restoration as an adaptation measure for dissemination within the two countries, to other SIDS and also countries within the WIO and other regions, and to build capacity for this intervention in the WIO.

**IMPLEMENTATION**

- This project is being directly implemented by UNDP in collaboration with Responsible Parties and Activity Partners in Mauritius and Seychelles.

**KEY RESULTS**

- At least 3.2 Ha in Mauritius and Rodrigues and 2.5 Ha in Seychelles of degraded sites restored using farmed corals.
- At least 860 persons with improved livelihoods from coral restoration activities and/or due to the improved coastal and marine ecosystems supported by the restored corals
- At least 3 published papers on coral reef restoration, with contribution from at least 3 female scientists.
- 1 new ocean-based nursery established and operational with 100 basal tables, 100 multi-layered ropes nursery units in Mauritius
- At least 10 % increase in live coral cover, fish density and diversity in Mauritius and Rodrigues
- Setting up land-based nurseries in Mauritius and one additional land-based nursery at Cousin Island in Seychelles
- Knowledge sharing platform on reef restoration for sharing lessons learned developed

**PARTNERS**

**Mauritius**
- Ministry of Blue Economy, Marine Resources, Fisheries and Shipping
- Mauritius Oceanography Institute
- Albion Fisheries Research Centre
- NGOs

**Seychelles**
- Ministry of Agriculture, Climate Change and Environment
- Seychelles National Park Authority
- Nature Seychelles
- Marine Conservation Society of Seychelles

**UNDP IN MAURITIUS AND SEYCHELLES**

UNDP supports and supplements national efforts aimed at reducing poverty in all its forms, addressing gender mainstreaming and gender-based violence, accelerating the transition to sustainable development, and making sure national institutions and communities are able to withstand crises and shocks. We strive to ensure that the most vulnerable and excluded are not left behind, develop game changing solutions to accelerate sustainable development, and promote low-carbon consumption, and preparedness against climate-related crises and shocks.

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**QUICK FACTS**

- Mauritius - 243 km² of lagoon area enclosed by 150 km of fringing reef
- Coral mortality from 1997-1998 bleaching ranged from 10% in Mauritius to 80-95% in Seychelles
- Reduction of 30-88% global coral cover by 2100 if temperature rises by 1.1°C to 2.6°C

**ADDITIONAL FACTS**

The overall objective is to reduce the impact of climate change on coral reef-dependent economic sectors in Mauritius and Seychelles by implementing coral reef restoration with thermal tolerant corals.

In Mauritius, coral reef restoration will be implemented mostly within Marine Protected Areas (MPAs): Blue Bay Marine Park and the South East Marine Protected Area in Rodrigues. Within the MPAs, nursery sites will be selected based on the reports on coral reef status, water quality, current pattern and key environmental and social parameters.

In Seychelles, coral reef restoration and nurseries will be implemented within the Curieuse Marine National Park, Cousin Special Reserve, Ste Anne Marine National Park MPAs and Anse Forbans. The cost of coral reef restoration varies according to method, objective and location, as does the cost effectiveness of the methods used.

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