Mid Term Review of UNDP-AF funded project – Restoring Ecosystem Services by Restoring Coral Reefs to meet a Changing Climate Future

UNDP PIMS# and AF project 5736

Final report

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Acronyms and Abbreviations

AF	Adaptation Fund
AFRC	Albion Fisheries Research Centre
AHRIM	Association des Hôteliers et Restaurateurs de l'île Maurice
APs	Activity Partners
BBMP	Blue Bay Marine Park
BERI	Blue Economy Research Institute
BRUV	Baited Remote Underwater Video
CBASS	Coral Bleaching Automated Stress System
CC	Climate Change
COT	Crown of Thorns
CORDIO	Coastal Oceans Research and Development in Indian Ocean
CRR	Coral Reef Restoration
CSR	Corporate Social Responsibility
CTA	Chief Technical Advisor
DART	Diversity Arrays Technology
DIM	Direct Implementation Modality
DNA	DeoxyriboNucleic Acid
DOA	Delegation of Authority
DSTI	Department of Science Technology and Innovation
EEZ	Exclusive Economic Zone
EOP	End of Project
ESMP	Environmental and Social Risk Management Plan
ETF	Environmental Trust Fund
GEF	Global Environment Facility
GFCR	Global Fund for Coral Reefs
GIS	Geographic Information System
GOP	Gainful Occupational Permit
GPFR	Grand Port Fishing Reserve
GPS	Global Positioning System
Ha	Hectare
HACT	Harmonized Approach to Cash Transfer
HQ	Headquarter
IP	Intellectual Property
IRD	Institut de Recherche pour le Développement
LPAC	Local Project Appraisal Committee
MACCE	Ministry of Agriculture, Climate Change and Environment
MBEMRFS	Ministry of Blue Economy, Marine Resources, Fisheries and Shipping
MCSS	Marine Conservation Society Seychelles
MEECC	Ministry of Environment, Energy and Climate Change
MESWMCC	Ministry of Environment, Solid Waste Management and Climate Change
MFEPD	Ministry of Finance, Economic Planning and Development
MOI	Mauritius Oceanography Institute
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MRU	Mauritius
MT	Ministry of Tourism
MTR	Mid-term Review
NbS	Nature Based Solutions

NGO	Non-Governmental Organization
NIM	National Implementation Modality
NPC	National Project Coordinator
NSEY	Nature Seychelles
PM	Project Manager
PMT	Project Management Team
PNCC	Project National Coordinating Committees
POPP	Policies and Procedures Portal
PPR	Project Performance Report
PRF	Project Results Framework
PSC	Project Steering Committee
RBA	Regional Bureau of Africa
RCSS	Rodrigues Council of Social Services
RFP	Request for Proposal
ROD	Rodrigues
RoM	Republic of Mauritius
RoS	Republic of Seychelles
RPM	Regional Project Manager
RRA	Rodrigues Regional Assembly
RSAC	Regional Scientific Advisory Committee
RTA	Regional Technical Advisor
SCRN	Seychelles Coral Reef Network
SDG	Sustainable Development Goal
SEY	Seychelles
SIDS	Small Island Developing States
SMART	Specific, Measurable, Achievable, Realistic, Timebound
SOP	Standard Operating Procedure
SPGA	Seychelles Parks and Gardens Authority
SEMPA	South East Marine Protected Area
SEYCCAT	Seychelles Conservation and Climate Adaptation Trust
SFA	Seychelles Fishing Authority
TOR	Terms of Reference
UNDP	United Nations Development Programme
WIO	Western Indian Ocean

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Executive Summary

Project Information Table

Project Title	Mid Term Review of UNDP-AF funded project – Restoring Ecosystem Services by Restoring Coral Reefs to meet a Changing Climate Future UNDP PIMS# and AF project 5736
MTR timeframe and date of MTR report	September 2023 – February 2024 Draft Report – 22 January 2024 Final Report – 25 February 2024
Region and countries included in the project	Republic of Mauritius and Republic of Seychelles
Implementing Agency	UNDP
Executing Agency	Executing partners (Responsible Parties) In the Republic of Mauritius: Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS) with the collaboration of Mauritius Oceanography Institute (MOI), Albion Fisheries Research Centre (AFRC) and Rodrigues Regional Assembly (RRA). In the Republic of Seychelles: Ministry of Agriculture, Climate Change and Environment (MACCE),
Other project partners	Seychelles – Seychelles Parks and Gardens Authority (SPGA), the Marine Conservation Society Seychelles (MCSS), Nature Seychelles, Seychelles Conservation and Climate Adaptation Trust (SEYCATT) and the Nature Conservancy Mauritius - Ministry of Finance, Economic Planning and Development (MFEPD), Ministry of Environment, Solid Waste Management and Climate Change (MESWMCC), Ministry of Tourism (MT), Reef Conservation, Eco-Sud, Shoals Rodrigues; and, Association des Hôteliers et Restaurateurs de l'île Maurice (AHRIM) ; and in Seychelles –
MTR members	Camille Bann and Reshma Sunkur

Project Description

The **overall objective** of the Coral Restoration project is to reduce the impact of climate change on local communities and coral reef-dependent economic sectors in the Republic of Mauritius and the Republic of Seychelles by implementing coral reef restoration with thermal tolerant corals as adaptation to climate change. The project is organized under three components (aligned with the project's specific objectives)

- Component 1: Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius
- Component 2: Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Seychelles
- Component 3: Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration

Coral reef restoration work in Mauritius is focused on two Marine Protected Areas (MPAs): Blue Bay Marine Park (BBMP) and SEMPA (South East Marine Protected Area) in Rodrigues. In the Seychelles the sites are Curieuse Marine National Park, Cousin Island Special Reserve, Ste Anne Marine National Park, and one non-MPA site - Anse Forbans.

The project is funded through a USD 10 Million grant from the Adaptation Fund (AF). In addition, a cost sharing agreement was signed between the UNDP and the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS) Mauritius in September 2020 for MUR

59 million (around USD 1.4 million) for the setting up of land-based nursery at MOI (for asexual propagation of corals) and AFRC (for sexual propagation of corals) and installation of a seawater pump at MOI. The project is designed to run over 6 years. Project implementation formally started in November 2020 and full project closure is scheduled for December 2026.

Project Progress

Key achievements of the project at mid-term are: (i) the impressive coral restoration work being undertaken across the project sites, by experienced and committed APs / NGOs, under challenging sea conditions; (ii) equipment procured and deployed (e.g. temperature loggers, current meter loggers) despite supply chain constraints caused by COVID-19 and cost escalation; (iii) in Mauritius the work with the beneficiaries and the engagement of communities and hotels, which should support the sustainability of project outcomes; and, (iv) in Seychelles, APs are largely on track to meet their EOP targets and there is the opportunity to learn from the numerous experiments being undertaken at the Nature Seychelles and SPGA sites, which are yet to be documented and shared amongst partners.

However, many activities are behind a mid-term, and only 19 out of 48 mid-term targets have been achieved (39%) and 15 indicators (28%) are considered not to be on track. External factors, including the first years of the project coinciding with COVID 19 lockdown inevitably contributed to delays. However, project specific factors have also caused delays. The project start-up in Mauritius was delayed due to UNDP requiring the preparation of a comprehensive Environmental and Social Risk Management Plan (ESMP). The departure of key experts from MOI and AFRC at the start of the project, and on-going capacity issues at these two institutions has also resulted in delays. Of note progress in the two countries is not aligned, with Seychelles starting work on the sea nurseries 1.5 years before the full engagement of the NGOs in Mauritius.

The MTR ratings and achievements are summarized in Table A.

Table A: MTR Ratings and Achievement Summary Table

Measure	MTR Rating	Achievement Description
Project Strategy	N/A – not rated at mid-tem	Project design issues have negatively impacted implementation. The project has had to adjust to address inconsistencies in the project document, including unbudgeted activities. The Project Results Framework (PFR) is overly complex and presents a heavy monitoring burden for the project. Many of its 52 indicators are not considered to be SMART. The relevance of the project is however considered to be even higher now than it was when designed given the increased threat facing coral ecosystems in the two countries and globally.
Progress Towards Results	Objective 1: 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, at a larger scale than ever tested in the past. Objective 2: to generate knowledge about effective	Only 2 of the 5 mid-term targets have been achieved; Indicator 3 related to the number of people trained and involved in the establishment, maintenance, and monitoring of successful ocean nurseries for corals was exceeded in Seychelles while in Mauritius the *end of project* target has been exceeded. In Mauritius, outplanting work will start in 2024 and it is unlikely all Activity Partners (APs) will meet their end of project (EOP) targets to restore degraded sites (Indicator 1). Targets related to number of stakeholders with improved livelihoods due to ***new*** and ***sustained*** employment and business opportunities related to coral restoration activities, will also be difficult to meet if strictly defined, especially in Seychelles.

	restoration techniques for dissemination to other SIDS and countries within the wider region **Moderately Satisfactory**	
	Component 1: enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius **Moderately Satisfactory**	8 mid-term targets have been achieved, 3 are considered to be on track, 6 are not on track and 3 do not have mid-term targets but are considered *not* to be on track. It is recognized that the NGOs have made good progress, especially given the late start and work is on a positive trend, albeit with very challenging EOP target for many which need closer assessment. The key concerns are (i) the delays to the land-based nurseries, which are largely administrative, given the importance of these nurseries to the project; and (ii) insufficient manpower to meet the end of project targets for the sea-based nurseries
	Component 2: enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Seychelles **Satisfactory**	Of the mid-term targets, 7 have been achieved, 6 are on track, 3 are not on track. End of project outplanting targets are understood to be challenging for both MCSS and SPGA. While Nature Seychelles were on track, they are likely to suffer some delays due to the engine on their boat being stolen in January 2024. Indicators not on track relate to: (i) improved livelihoods due to new employment and business opportunities, which may not be achievable within the project timeframe; (ii) the delivery of Environmental and Social Risk Assessment Reports, which are contingent on an agreement on revisions to the MOUs between MACCE and APs; and, (iii) the challenging increases in the percentage of live coral cover and quality of restoration sites set.
	Component 3: Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration **Moderately Satisfactory**	Of the mid-term targets - 2 are achieved and 7 are on track., 1 indicator has no target set at mid-term. The survey and scientific (genetics) work has been severely delayed (due to delays in securing equipment and capacity issues at MOI) and there is a lack of planning and awareness of roles regarding activities related to knowledge management and dissemination. The mid-term review found a low understanding of what Component 3 entails and how different parties are expected to contribute to it.
Project Implementation & Adaptive Management	**Moderately Satisfactory**	Key concerns are**:** (i) Some project activities are facing significant delays and the ability of the project to accelerate delivery from the mid-term point is considered unlikely due to current lack of a project management team and administrative bottlenecks; (ii) extensive and persistent delays in disbursements; (iii) the visibility of the project nationally, regionally, and internationally is low; (iv) the need for more efficient and effective application of monitoring tools (e.g. monitoring template and livelihood survey); and, (v) lack of coordination and collaboration between project partners. It is noted that the project has put in place adaptative measures to address the challenges of the COVID-19 and to address the inconsistency in the project document and has successfully raised co-financing. Backstopping has been provided by UNDP, given the PMT is currently understaffed.
Sustainability	**Moderately Likely**	There are a range of potential financing options being explored by the project through project activities and initiatives which supports the likelihood of financial resources being available once the AF assistance ends. However more certainty is required, and this should be detailed in an exit plan for the project. In terms of socio-economic risk, the coral restoration sites face multiple risks from local drivers of degradation including unsustainable tourism-related practices such as anchoring of boats, sedimentation and pollution and overfishing, that could potentially jeopardize sustainability of

		the project's outcomes. Capacity to sustain and upscale the project outcomes is also a serious concern. In relation to institutional framework and governance risks systems for accountability, transparency and technical knowledge transfer are not fully in place. A key risk in the **Seychelles** is that the revised MOUs between the APs and MACCE are yet to be signed. This has implications for knowledge sharing - a core objective of the project. Enforcement of the MPAs remains a challenge. Coordination across Government departments is needed to fully realize the benefits of the project and ensure sustainability of its outcomes going forward. **Environmental risks** are high and include potential cyclone damage and El Nino impacts, which could wipe out all the work on the ground.

Conclusions

The project is complex and ambitious. Coral restoration is a highly specialist field and rapidly expanding research topic. The project involves the use of both land-based and ocean-based nursery techniques in two countries, across five islands with six APs/ NGOs working on different timelines to restore disparate project sites, trialing different nursery and outplanting techniques.

The project is of high strategic relevance nationally, regionally, and globally. At the national level the health of coral reefs is tied to the livelihood and wellbeing of communities through its support to fisheries and shoreline protection functions, as well as being a core natural asset central to tourism offerings of both countries. Coral reefs are facing extinction, and the project presents the opportunity to test various coral restoration methods and promote learning.

The project aims to increase core ecosystem services provided by coral reefs – fish productivity and shoreline protection, through coral reef restoration. However, these indirect benefits will not be possible to measure within the project timeframe. The sustainability of the project's outcomes is therefore critical to meeting project objectives over a longer timeframe.

Environmental risks are high and include potential cyclone damage and El Nino impacts, which could wipe out all the work on the ground. In light of this, the land-based nurseries and documentation of methodologies for sea-based nurseries are considered absolutely critical outputs of the project. The potential impact of El Nino on restoration areas poses a significant risk for the project, but also offers new learning opportunities for the project.

Key lessons at the mid-term are:

1. Poor project design slows down implementation and places a heavier burden on project management than otherwise would be the case.
2. Reliance on specific staff members within institutions is a risk.
3. The lack of alignment in timeline between regional partners at the start of the project has caused confusion and led to unintended inequities between the Activity Partners, not just in terms of delivery timelines - but also in terms of the expected outputs and reporting burden.
4. Training and capacity building is critical for the sustainability of the project's outcomes. The project often only has budget to train one person within an organization. This risks capacity / learning being lost when the trained person leaves. It is also important that priority is given to national staff, and that where international staff are being trained there are processes / requirements for the training to be disseminated to local staff members.
5. Site selection for coral restoration needs to be based on scientific studies and an understanding of the socio-economic pressures.

6. An integrated approach is critical to the survival of coral restoration efforts. While the project is being conducted in Marine Protected Areas to ensure the safety of nurseries, they are still facing threats from tourist activities (boat anchoring), overfishing, pollution from land-based activities and development pressures. Working across key ministries who are responsible for both the protection of MPAs and who may also be the cause of possible impacts is important to ensure a strong integrated policy and institutional framework.
7. Private sector engagement can greatly enhance coral restoration efforts. Given the high cost of coral restoration work, innovative ways to finance coral restoration is central to upscaling current efforts.
8. Lessons and learning should be systematically collected as the project progresses and shared with partners quickly so that learning can be incorporated every step of the way.
9. Long term monitoring will be required to assess the impact of the project on fish productivity, linked to food security, and shoreline erosion linked to coastal resilience. This requires resources to undertake the monitoring activities after the project has ended.
10. Gender considerations. To avoid excluding pregnant female beneficiaries and staff, the AP/NGOs would need to adjust their workplans and identify other less physically demanding roles. It is noted that this would have implications on targets and budgets for already overstretched teams.

Table B: Recommendations Summary Table

No	Recommendation	Responsible party	Completion date / Timeframe
Actions needed to reinforce the initial benefits from the project			
1	A 1-year no-cost project extension to December 2027	UNDP, RPM	Q2 2024
2	Expediate the hiring of project staff. Prioritize the fast track hiring of PMT staff members, and ensure backstopping arrangements remain in place until the new PMT is operating effectively	UNDP, RPM	Q2 2024
3	Address key project management issues. • 3a/ Urgently need to put in place a payment system which ensures APs and consultants are paid on time. • 3b/ MOUs between MACCE and the APs urgently need to be resolved in Seychelles. • 3c/ mandatory pre audit meetings and exit meetings should held with the auditors and NGOs/ AP should be available to meet with the auditors.	UNDP, PDCS	Q1, 2024
4	Revise indicators and budget and review project risks • 4a/ Indicator revisions. • 4b Budget revisions. • 4c Review and update project risk	PMT, PSC	Q1 2024
5	Work with AP/NGOs at risk of not achieving their end of project coral restoration targets (related to nurseries and sites restored) to identify optimal number of staff / beneficiaries needed to meet realistic targets within current budget allocations	PMT, NPC Seychelles	Q3 2024
6	Knowledge and learning (Objective 2 & Component 3) elevated, clarified and better communicated to all parties	PMT SNPC Seychelles	Q2 2024
7	Clarify and strengthen monitoring approaches and ensure monitoring and reporting systematically contributes to learning	CTA, PMT	Q2 2024
8	Enhance technical support	UNDP, PSC	Q2 2024
9	Enhance collaboration across APs and build community of practice in coral restoration	PMT	Ongoing
10	Strengthen communications and visibility – internal and external based on a communications plan	PSC, PMT	Q2 2024

11	Address bottleneck in approvals by the Ministry of Blue Economy – Mauritius and increase capacity and staff numbers at MOI	Ministry of Blue Economy, MOI, UNDP	Q1 2024
12	Institute specific oversight and management system for land-based nurseries in Mauritius	Ministry of Blue Economy, MOF, UNDP	Q1 2024
13	Continue and develop engagement with private sector	PMT, APs	ongoing
14	Develop Exit / sustainability plan	UNDP, PMT	Completed by start of Terminal Evaluation
Recommendations for future programming			
15	Longer term strategic thinking on how to develop local expertise and capacity in Seychelles	MACCE and UNDP	Ongoing

1. Introduction

1.1 Purpose of MTR and objectives

The objectives of the Mid Term Review (MTR**)** of the UNDP-AF funded project "Restoring Marine Ecosystem Services by Restoring Coral Reefs to Meet a Changing Climate Future" project (also known as Coral Restoration project) are to:

(i) assess progress towards Outcomes and Outputs in the Project Results Framework (PRF);
(ii) assess early signs of project success or failure and identify necessary changes to place the project on-track to achieve its intended results; and,
(iii) review the project's strategy and risks to its sustainability.

In addition, the review team were asked to review the alignment of project activities with the indicators and targets in the Project Results Framework (PRF) and budget and make recommendations to ensure consistency and, to take into consideration the impacts of COVID-19 and Ukraine-Russia conflict on the implementation of project activities, timeline and budgetary implications.

1.2 Scope and Methodology

The MTR was undertaken over the period September 2023 - February 2024 by an independent international consultant and independent national consultant (Mauritius)[1]. The Terms of Reference are provided in Annex 1.

The MTR assesses the project against the following four main categories: (i) project strategy; (ii) progress towards results; (iii) project implementation and adaptive management; and (iv) sustainability. It is based on a review of key information and an extensive stakeholder consultation. Annex 8 provides a list of documents reviewed, and Annex 7 provides a list of people consulted.

The MTR followed a collaborative and participatory approach ensuring close engagement with the project team, government counterparts, the UNDP Multi-country office and other key stakeholders. However, it is noted that the project management team was not fully staffed for the entirety of the MTR period[2]. The MTR consultation plan was based on **a** stakeholder mapping[3] undertaken as part of the inception phase of the MTR, indicating how the MTR intended to engage all the various project stakeholder groups in the MTR process. A mission was undertaken from the 7th to 24th November during which time face to face interviews were held with all key stakeholders. Interviews were largely conducted on a one-on-one basis, although focus groups with local beneficiaries were undertaken in Mauritius. All of the main project sites were visited. The agenda for the mission is presented in Annex 6. In total 78 people (42 in person in Mauritius, 29 in person in Seychelles and 7 online) were consulted as part of the MTR (56% of whom are

[1] It was not possible to identify a national consultant in Seychelles and it was thus agreed that the tasks for the national consultant (Seychelles) would be shared between the international consultant and national consultant (Mauritius), with the support of UNDP Seychelles. Overall, the international consultant was contracted for 40 days and the national consultant for 30 days.
[2] Of note, the Regional Project Manager left the project at the start of November 2023, at which point only the Finance and Procurement Officer was in place, who was new to the project and left in December 2023. A National Project Coordinator in Seychelles (hired in October 2023) supported the MTR. A Project Associate joined the project in January 2024.
[3] *see* MTR Inception Report

women). In addition, two on-line workshops, organized by UNDP, were held to which all key projects stakeholders were invited: (i) an inception workshop on 22 September 2023 to share the purpose of the MTR and proposed timeline, and get feedback on possible mission dates. This was attended by 99 people; and, (ii) a preliminary findings workshop (20 December 2023), where the preliminary findings and recommendations were presented, allowing key project stakeholders the opportunity to comment on core findings of the MTR ahead of drafting the MTR Report. This was attended by 32 people. Participants at the two workshops are included in Annex 7.

1.3 Structure of MTR Report

This MTR report follows the required template for UNDP-AP MTRs. Section 2 provides background on the project and a description of the project as designed. Section 3 presents the findings of the MTR organized under the four main categories against which the project is assessed at mid-term – project strategy, progress towards results, project implementation and adaptive management and sustainability. Section 4 concludes and presents the MTR recommendations.

The following annexes are provided: Annex 1 – MTR TOR (excluding ToR annexes); Annex 2 - Indicator Review; Annex 3 - Progress Towards Results Matrix (Achievement of outcomes against End of project targets) at Mid-Term; Annex 4 - Overview of budget inconsistencies and proposed solutions; Annex 5 - Ratings Scales; Annex 6 - MTR mission itinerary; Annex 7 - Consultations; Annex 8 - List of documents reviewed; Annex 9 - Signed UNEG Code of Conduct form; Annex 10 - Signed MTR final report clearance form; and, Annex 11: Audit trail from received comments on draft MTR report (provided as a separate annex).

2 Context and Project Description

2.1 Development context[4]

The Republic of Mauritius (RoM) and the Republic of Seychelles (RoS) are Small Island Developing States (SIDS) in the Western Indian Ocean (WIO), located off the eastern coast of Africa. The Republic of Mauritius (RoM)[5] has an area of 2,040 km^2, comprising the mainland Mauritius (located 800 km east of Madagascar), Rodrigues Island, Agalega Islands, Tromelin Island, Cargados Carajos Shoals and the Chagos Archipelago. Its Exclusive Economic Zone (EEZ) is nearly 2.3 million km^2 as well as an Extended Continental Shelf of 396 000 km^2 managed jointly by RoM and RoS, outside the border of their respective EEZ. Mauritius has a population of 1.26 million, of which around 97% live on the main island and the rest on Rodrigues[6]. Mauritius has a 322 km of coastline and 243 km^2 of lagoon area enclosed by 150 km of fringing reef that surrounds the majority of the island.

The Republic of Seychelles[7] is an island archipelago, located some 1,600km east of Kenya, with a total landmass of 455 km^2, and an Exclusive Economic Zone (EEZ) covering 1.374 million km^2. The archipelago consists of 115 islands, of which 42 are granitic and the rest are of coralline

[4] Based on Project Document
[5] Republic of Mauritius (2016). Third National Communication: Report to the United Nations Framework Convention on Climate Change. Republic of Mauritius, Port Louis. 210 pp.
[6] Mauritius in Figures 2015. Statistics Mauritius
[7] Republic of Seychelles (2011) Second National Communication Under the United Nations Framework Convention on Climate Change. Ministry of Home Affairs, Environment, Transport and Energy Government of Seychelles, Victoria. 378 pp.

origin. The main granitic islands, also known as the inner islands, are in descending order of size Mahé, Praslin, Silhouette and La Digue. The granitic islands are within a 56 km radius of the main island of Mahé. Mahé is the largest island at 157 km^2 and is the site of Victoria, the capital. The coralline islands, rising only a few feet above sea level, are flat with elevated coral reefs at different stages of formation. These islands are largely waterless, and very few have a resident population. The main outer islands are, from north to south, Bird, Denis, the Amirantes group, Alphonse, Coetivy, and the Aldabra, Cosmoledo and Farquhar groups. Almost 50% of Seychelles' land area has been set aside as natural reserves.

Coral reefs support food security and coastal livelihoods in both Mauritius and Seychelles. They are the basis of artisanal fisheries and the tourism industry which are both strongly associated with the amount of live hard coral cover[8]. However, coral reefs are under severe stress. Reefs in the Western Indian Ocean (WIO), as elsewhere in the world, have suffered from a range of negative human- induced impacts and climate-change associated coral bleaching. The WIO was severely affected by the first major global bleaching episode caused by the 1997/1998 El-Nino/Indian Ocean Dipole event, which resulted in high seawater temperatures. Coral mortality due to bleaching ranged from 10% in Mauritius to 80-95% on the worst affected reefs in the Seychelles[9], with live coral cover reduced to less than 3% in some areas[10]. While some reefs recovered naturally within 5-10 years, others remained as rubble strewn wastelands even within well-established Marine Protected Areas (MPAs), often impacted by other local factors. Further outbreaks of coral bleaching occurred in 2004 and 2009 and although in many sites bleached corals recovered, many others have died[11]. In 2015-2016, the largest and most intense El Niño-coral bleaching event on record occurred worldwide[12] badly affected coral reefs in both countries.

The frequency of coral bleaching events is predicted to increase in coming decades as seawater temperatures continue to rise. It has been estimated that, by 2100, live coral cover globally could reduce by 30-88% through impacts such as bleaching and reduced calcification in the event of 1.1°C to 2.6°C rise in temperature[13].

Corals that survive bleaching events offer an opportunity to restore reefs to maintain ecological function[14]. The speed with which climate change is resulting in negative impacts on coral reefs means that conservation alone is not enough to ensure coral reefs remain functional and provide essential ecosystem services to people: food, protection from storms and sea level rise. Active restoration with more thermal tolerant species is needed to ensure coral reefs will remain functional and adapt to climate change.

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[8] Komyakova V, Munday PL, Jones GP (2013) Relative importance of coral cover, habitat complexity and diversity in determining the structure of reef fish communities. *PLoS ONE* 8(12): e83178. doi:10.1371/journal.pone.0083178

[9] Obura D (2005) Resilience and climate change: lessons from coral reefs and bleaching in Western Indian Ocean. Estuarine, Coastal and Shelf Science 63: 353–601 372

[10] Graham NAJ, Wilson SK, Jennings S, Polunin NVC, Bijoux JP, Robinson J (2006) Dynamic fragility of oceanic coral reef ecosystems. Proc. Nat. Acad. Sci. USA 103 (22): 8425–8429. doi:10.1073/pnas.0600693103.

[11] Moothien-Pillay, S., Bacha Gian, S., Bhoyroo, V. and Curpen, S. 2012. Adapting coral culture to climate change: the Mauritian experience. *Western Indian Ocean J. Mar. Sci*. 10(2): 155-167.

[12] Eakin, CM et al., 2016. Global coral bleaching 2014-2017 – status and appeal for observations. *Reef Encounter* 31(1): 20-26. [9] MOI 2016. Presentation by MOI during consultant's mission.

[13] IPCC 2014: Arent et al. 2014: Cross-chapter box on the water–energy–food/feed/fiber nexus as linked to climate change. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*

[14] Hughes TP et al (12 authors) (2017). Coral reefs in the Anthropocene. Nature 546: 82-90

The project seeks to increase climate resilience in Mauritius and Seychelles by implementing coral reef restoration with thermal tolerant corals as adaptation to climate change. The project is intended to respond to the needs of the more vulnerable groups in each country. At project design, in Mauritius 8.5% of the population were below the national poverty line. In Seychelles, the poorer groups within the community comprise 39.3% of the population who live under the Basic Needs Poverty Line. Many of these groups are the most vulnerable to coastal flooding either because they live on the shoreline or in reclaimed areas of wetlands at risk of flooding or because the structures, they live in are not robust enough to withstand flooding. Infrastructure that is immediately adjacent to the beach is at risk, and there is clear evidence of this in some areas, with seawalls collapsing and erosion of roadbeds, especially after storms. Coral reefs are critically important as a first line of defense for coastal infrastructure. The restoration of coral reefs will help to maintain beaches through the provision of coral sand and protect coastal infrastructure. Coastal communities under the project were to benefit from improved shoreline protection and from the growth of the economy through receiving benefits through remuneration for work done, including tourism and direct employment on restoration initiatives.

The project document notes that both Mauritius and Seychelles had developed national frameworks for climate change mitigation and adaptation responses and paid attention to the role that coastal ecosystems play in determining the vulnerability of communities to climate change and mitigating its adverse impacts. However, despite pre-project investments in protecting coral reefs, including the creation and improved management of MPAs and the improved regulation of coastal development, at project design this was still deemed insufficient to maintain the role of coral reefs in food and income security and disaster risk mitigation. The project document notes that limited experience in and the lack of knowledge on coastal ecosystem restoration in Mauritius and Seychelles and the region hindered the application of ecosystem-based climate change adaptation measures. Lack of knowledge and insufficient awareness of climate change impacts and the urgency of addressing ecosystem restoration and resilience as an adaptation measure were identified as further barriers. Therefore, as expressed in the project document, the main barrier the project is designed to target is the lack of standardized technical capacity between Mauritius and Seychelles to implement large-scale coral reef restoration.

2.2 Project Description

The **Coral Restoration project** is funded by the Adaptation Fund (AF). The project benefits the Republic of Mauritius and the Republic of Seychelles through coral restoration activities as well as a capacity building programme and knowledge exchange for the region.

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

The **specific objectives** of the project are to:

- improve food security and livelihoods and mitigate risks from natural disasters through active restoration of coral reefs degraded by bleaching because of climate change in **Mauritius**, to restore the essential ecosystems;
- improve food security and livelihoods and mitigate risks from natural disasters through active restoration of coral reefs degraded by bleaching because of climate change in **Seychelles**, to restore the essential ecosystems; and,

- 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 countries within the Western Indian Ocean (WIO) and other regions, and to build capacity for this intervention in the WIO. By adopting a regional approach, it is expected that the stakeholders involved will develop technical and scientific partnerships as well as a common understanding that will enable them to promote the use of effective natural solutions in adaptation and disaster risk reduction.

The project objective will be achieved through the following nine **outcomes**.

In Mauritius
- development of a sustainable partnership and *community-based approach* to reef restoration
- establishment of coral farming and nursery facilities
- active restoration of degraded reefs.

In Seychelles
- development of a sustainable partnership and *business approach* to reef restoration
- establishment of coral farming and nursery facilities
- active restoration of degraded reefs.

In both countries
- improved understanding and knowledge management of using coral reef restoration as an adaptation to climate change
- sharing regionally and globally the experienced learned in sustainable coral reef restoration
- training to build capacity for long-term sustainable coral reef restoration.

As a result of the outcomes, the expected **impacts** are: 1) Full community and business involvement in coral reef restoration, 2) Improved livelihoods with increased fish landings and access to new job opportunities and, 3) A standardized science-based approach and implementation to coral reef restoration in Mauritius, Seychelles and the Western Indian Ocean (WIO) region.

This project is expected to provide an opportunity to upscale initiatives already started by the Governments of Mauritius and Seychelles to restore degraded reefs and improve livelihoods for local communities to ensure long-term benefits to their national economies.

The project is organized under three components (aligned with the specific objectives)
Component 1: Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius,
Component 2: Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Seychelles,
Component 3: Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration.

Coral reef restoration work in Mauritius is focused on two Marine Protected Areas (MPAs): Blue Bay Marine Park (BBMP) and SEMPA (South East Marine Protected Area) in Rodrigues. In the Seychelles the sites are Curieuse Marine National Park, Cousin Island Special Reserve, Ste Anne Marine National Park, and one non-MPA site - Anse Forbans.

The project is coordinated through the United Nations Development Programme (UNDP) Multi-country Office for Mauritius and Seychelles, based in Mauritius, which provides UNDP representation for both Mauritius and the Seychelles under a single UN leadership with shared programme support services. The project is implemented under the Direct Implementation Modality (DIM) by UNDP[15]. Executing partners (Responsible Parties) involved are the **Ministry of Blue Economy, Marine Resources, Fisheries and Shipping** (MBEMRFS) in the Republic of Mauritius with the collaboration of Mauritius Oceanography Institute (MOI), Albion Fisheries Research Centre (AFRC) and Rodrigues Regional Assembly (RRA). In the Republic of Seychelles, the partners are the **Ministry of Agriculture, Climate Change and Environment** (MACCE), and Activity Partners - the Seychelles Parks and Gardens Authority (SPGA), the Marine Conservation Society Seychelles (MCSS) and Nature Seychelles. The Responsible Parties are directly responsible for project implementation and report progress to the Project Management Team (PMT), the Project National Coordinating Committees (PNCC) established in each country and the Regional Project Steering Committee (PSC). In the case of Seychelles, Activity Partners carry out project activities on behalf of the Responsible Party.

Other key **stakeholders** include: In the Republic of Mauritius - Ministry of Finance, Economic Planning and Development (MFEPD), Ministry of Environment, Solid Waste Management and Climate Change (MESWMCC), Ministry of Tourism (MT), Reef Conservation, Eco-Sud, Shoals Rodrigues; and, Association des Hôteliers et Restaurateurs de l'île Maurice (AHRIM) ; and in Seychelles – Seychelles Conservation and Climate Adaptation Trust (SEYCCATT), the Nature Conservancy ; and, the Seychelles Fishing Authority (SFA).

The project is funded through a USD 10 Million grant from the AF allocated across the project components as follows: Component 1 Mauritius - USD2.5 million; Component 2 Seychelles – USD 2.5 million; and Regional Component, Project Management Team (PMT) and Other costs– USD 5 million. In addition, a cost sharing agreement was signed between the UNDP and the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS) Mauritius in September 2020 for MUR 59 million (around USD 1.4 million) for the setting up of land-based nurseries at MOI (for asexual propagation of corals) and AFRC (for sexual propagation of corals) and installation of a seawater pump at MOI.

Project timing and milestones. Key project dates are summarized in Box 1. The project was approved by the Adaptation Fund in November 2018 following a regional call for proposals under the themes of Food Security and Disaster Risk Reduction. The Local Project Appraisal Committee (LPAC) met in December 2019 in Seychelles to formally endorse the project and its objectives.

As the Activity Partners in Seychelles were already identified during the project preparation stage, and HACT assessments completed in 2018, an MOU between Activity Partners in Seychelles and the then Ministry of Environment, Energy and Climate Change (MEECC) was prepared and activities in Seychelles started in February 2020[16].

Due to Covid-19 lockdowns and UNDP requiring the preparation of a comprehensive Environmental and Social Risk Management Plan (ESMP), which was prepared and signed in

[15] Since there are no accredited National Implementing Entities (NIEs) to the Adaptation Fund (AF) in the target countries, the project is being implemented by UNDP, as an accredited AF Multilateral Implementing Entity (MIE). UNDP is responsible for the administrative and financial management of the project.

[16] Nature Seychelles were only able to start work in April 2021, due to restrictions around issuance of Gainful Occupation Permits (GOPs) related to COVID 19

May 2020, the Delegation of Authority (DOA) for the project was received in May 2020 and project document was signed by UNDP in June 2020. The Inception Workshop was held in Mauritius on the 26 November 2020 (official project start). The Regional Project Manager was hired in November 2020.

Hence in Mauritius, activities started in November 2020, six months after Seychelles. The Ministry of Agriculture, Climate Change and Environment (MACCE), formerly MEECC agreed to cover all related costs under the project from February to June 2020 (6 months), with the expectation that the project would reimburse / compensate these costs (discussed in more detail below). While the APs in Seychelles, who were identified in the project document, were able to start immediately in the field, in Mauritius a procurement process was required under UNDP programme and operations regulations to select the NGOs. This further increased the gap in the start date for the coral restoration work in the two countries, with coral restoration work not underway at all sites in Mauritius until March 2022.

The project is designed to run over the course of 6 years. With project implementation formally starting in November 2020, full project closure is scheduled for December 2026. However, Component 2 of the project is specific to the Seychelles and is expected to end December 2025, reflecting its earlier start time.

Box 1: Summary of Key Project Dates

- November 2018 - project approved by AF
- Dec 2019 - Local Project Appraisal Committee (LPAC)
- Feb 2020 – Seychelles MOUs signed between MEECC (now MACCE) Seychelles and 3 Activity partners
- May 2020 - DOA
- November 2020 – Official programme start (Inception Workshop, recruitment of Regional Project Manager, work starts in Mauritius)
- October 2021 – Shoal Rodrigues & Eco-Sud started work
- March 2022 – Reef Conservation started work
- December 2025 – planned project end Seychelles
- June 2026 – Operational closure
- 4 December 2026 – Full project closure

3 Findings

3.1 Project Strategy

3.1.1 Project design

The project is of high strategic relevance. The problem to be addressed by the project as articulated in the project document has become more acute since it was designed. There is evidence of coral bleaching and heightened risks due to El Nino, while the natural shoreline protection functions of coral reefs have become more important given the acceleration in coastal erosion in both countries. Coral reefs are at risk of being the first ecosystem to become extinct, with 90% of coral reefs predicted to be lost by 2050 based on current global warming trajectories[17]. Hence, there is increased urgency to understand approaches to protect, restore and monitor

[17] Intergovernmental Panel on Climate Change (IPPC), 2018; see also, https://www.weforum.org/agenda/2022/02/coral-reefs-extinct-global-warming-new-study/ which predicts 99% of coral could be lost by 2030.

thermal resilient coral reefs and to ensure that lessons and learnings are accessible nationally, regionally and globally, in line with the project's design.

While coral restoration is a growth area, there is currently limited monitoring and understanding of best methods. The project presents the opportunity to test specific methods along the whole coral restoration process (nurseries to outplanting) as well as to develop / test land-based nurseries. The two countries are testing very different approaches; in the Seychelles APs are working in mid-water nurseries while in Mauritius and Rodrigues coral restoration work is being undertaken by trained beneficiaries (community members) in shallow water lagoons[18].

The project addresses country priorities and is in line with the national development policies and associated strategies, programmes of action and other instruments of each country, and relevant regional strategies and agreements, which all recommend the restoration of coral reef as one of the climate change adaptation measures. The project is also consistent with the Sustainable Development Goals (SDGs), specifically SDG3 – Good health and wellbeing; SDG 13 – Climate action and SDG14 – Life below water[19].

The project design built on prior initiatives, for example the USAID funded Reef Rescuers project in **Seychelles.** In **Mauritius** coral farming was first piloted in 2008 by the Albion Fisheries Research Centre of the then Ministry of Fisheries in the lagoon of Albion, with various initiatives and projects building on this early work. Of note, between 2017 and 2020, the MOI initiated a three-year project aimed at training and building capacity of coastal communities (including fishers) in coral culture and reef rehabilitation techniques. The project also coincided with the Government initiative of "Promoting coral culture as an alternative livelihood for fisherman and coastal communities for conservation of marine biodiversity[20]". The project was implemented at four sites around the island, namely La Gaulette, Quatre Soeurs, Bel Ombre and Grand Gaube, with approximately 110 community members benefiting from training under a "Coral Culture Training Programme". The project was extended until 2022 through funding from a WIO-SAP grant, allowing extension of the project of project activities at three additional sites around Mauritius and training of an additional 60 community members.

In terms of gender mainstreaming and integration with poverty and other related priorities, the selection criteria used to identify the direct beneficiaries to be recruited by the NGOs requires that

[18] The MTR notes alternative views expressed by interviewees: (i) coral restoration should only be done at sites of very high commercial value (e.g. where snorkeling and diving is popular) to enable a return on investment. Otherwise, the focus should be on reducing pressures to the coral to come back naturally; (ii) Land based nurseries cannot provide an issuance mechanism – only nature can provide this. It is the corals that survive bleaching events that have the genetic makeup to be more resilient – not what is produced in laboratory through cloning and replanting and such an approach is not practical; (iii) it is likely that sea nurseries will be phased out as they are very challenging. Maldives is using a larval-based coral restoration method. Given the urgency, a diversity of approaches is however considered prudent to increase learning and find viable solutions.

[19] SDG 3 – Good health and wellbeing: Ensure healthy lives and promote wellbeing for all at all ages relating to components 1 and 2 outcome 1; SDG 13 – Climate action: Take urgent action to combat climate change and its impacts; 13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries; 13.3. Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning; 13.B Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities; SDG 14 – Life below water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development; 14.7 - By 2030, increase the economic benefits to Small Island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism; 14. B. Provide access for small-scale artisanal fishers to marine resources and markets

[20] https://www.nairobiconvention.org/clearinghouse/node/391

at least one-third are women, and that preference is given to women-headed households. Disaggregated data on gender are required for several of the indicators.

However, the project has suffered from project design issues including inconsistencies between descriptive text and PRF, limited detail on activities and insufficient budget allocation for some activities. Explanations for this include that the project was originally designed as an USD5 million project, but the AF increased the grant to USD10 million, with very little time given for redrafting and the expectation that the project would increase the emphasis on the regional component 3. UNDP conducted consultations in Mauritius and Seychelles as feasible within the restricted timeline for submission. However, there were some budget re-adjustments from agreed allocations to the National components (1 & 2) to the regional component (3), which were not to the satisfaction of all partners, who also felt they had not been adequately consulted. Further, some stakeholders felt that there had not been enough consultation or review of existing literature while developing the project document in general, for example in Rodrigues where the activities do not demonstrate a full appreciation of baseline work already undertaken. More consultation with potential NGOs in Mauritius during the development of the project document, would have helped avoid hurdles and delays later in the project.

Another issue has been the long lead time from the design of the project to implementation. The concept note was developed in 2015 and approved in 2016, and while the project document was submitted in 2017, implementation did not start until 2020. At project inception institutional capacity, budget costs and environmental changes were evident since project design, notably reduced capacity at MOI and AFRC, cost escalation and the Wakashio oil spill in the southeast of Mauritius.

The inconsistencies and limited detail in the project document have caused confusion among partners and frustrated project implementation. The project has addressed these shortcomings to a certain extent through adaptive management (see Section 3.3). Inconsistencies in the project document include:

- **TOR of PSC** does not mention validation of [scientific] reports, however the Project Results Framework (PRF) tasks them with validating the Comprehensive Review of Coral Restoration in the region and globally, the Coral Restoration methodology and good practices guide, Regional Coral Reef Restoration Plan and (thermally resilient) Coral species. The PSC do not have the expertise to validate these reports.
- **Regional Scientific Advisory Committee (RSAC).** The project document variously states that (i) *The RSAC will meet virtually every year; (ii) The RSAC will be a virtual committee. However, the members will meet at least **twice** during the course of the project, as back-to-back meeting to PSC meeting*. However, the budget only allows for one day of Daily Subsistence Allowance (DSA).
- Project Results Framework does not mention a MPA Strategic Plan [in Seychelles] but budget item 10 mentions a Strategic/Financial plan. The MOU between MACCE and SPGA does not mention that SPGA should update the MPA Strategic Plan. Further, SPGA has developed its own strategic plan (2022-2026).
- **Coral Restoration tool kit / manual (output 3.2.2)**. Wording used in the project document is inconsistent when comparing the activity, output and project results framework**.** For example, the activity stipulates “Coral Reef Restoration **Toolkit** for **Seychelles”** only, while the output mentions a **manual** for use in the “Western Indian Ocean (WIO)” and the PRF refers to a “Reef Restoration Manual” *not* the toolkit.

Challenges regarding the budget include: (a) planned activities without a budget allocation or with

insufficient budget (which has since be exacerbated by cost escalation); (b) budgeted items not referred to in the PRF / project narrative. Examples include:

- Insurance of equipment was unbudgeted for and the existing budget of equipment and materials had to be re-adjusted (PPR2).
- Knowledge exchange between project partners through technical meeting and site visits. A technical meeting was held the day before the PSC meeting on 8 November 2022 financed through savings from the previous year's travel budget. However, the budget is limited for such events going forward, especially given the hike in air tickets prices over recent years.
- Current pattern surveys were under budgeted with provision made for only 7 days in Seychelles for 3 different sites (two weeks were needed).
- Assistance from the APs on component 3 was not initially included in the original work plans of APs.
- Permitting requirements in Mauritius and associated costs of these permits were not included in the project design or budget.

Compliance with international legal frameworks: A key oversight in the project document is the lack of consideration given to the governing legal framework (e.g., Nagoya protocol on Intellectual Property (IP)), which were not factored in the design and timeline of the project. The need to adhere to the Nagoya protocol in the context of the ownership of thermally resistant coral species, led to significant project delays as discussed below.

3.1.2 Results Framework / Logframe

There are numerous inconsistencies in the project document between the description of the outcomes, outputs and activities in the main text of the project document and its Project Results Framework (PRF) and Monitoring Plan. The inconsistencies were not fully addressed during the Inception Phase and include: inconsistencies in the numbering and in the language used to describe activities and deliverables in the PRF compared to the main body of the text; poorly worded and/or poorly defined and/or compound indicators, which are not SMART; and, unclear / unspecific and / or variable means of verification (e.g., inconsistent report titles), reporting frequency, and targets and responsibilities.

Indicator review. The project has a large number of indicators (52) making project monitoring a significant task. Many indicators are duplicative in the sense that they reflect an aggregation of other indicators, and are not SMART (Specific, Measurable, Achievable, Relevant, Timebound). In a number of cases the project is reporting the same information for multiple indicators and / or information not specific to indicators because of the limited data they have to draw on. For example, training data is being used to both report on indicators related to training and livelihood creation. The fact that it is difficult to report on some indicators makes it challenging to measure and showcase project progress.

The project objective *to improve food security and livelihoods and mitigate risks from natural disasters through active restoration of coral reef ecosystems and their services* will be difficult to measure within the project lifetime, particularly in relation to food security (to be measured through an increase in fish productivity) and shoreline improvements, due to the fact that such changes are unlikely to occur within the project timeframe, as discussed further below.

Annex 2 provides a detailed review of the project's indicators, including changes made following the inception report and the finalization of Responsible Party Agreements in Mauritius. Of note, Activity Partners in Seychelles were engaged in reviewing and discussing targets during the

inception phase and several changes were made as documented in the Inception Workshop Report, whereas APs from Mauritius, who were yet to be identified were not. Key points related to the indicators are:

- Indicators 1-3 relate to objective 1 of the project and aggregate indicators for Mauritius and Seychelles provided under components 1 and 2. Hence they do not present additional / new information while adding to the excessive number of indicators but require that targets are met in both countries for the target at the objective level to be met.
- Indicator 1 refers to good survivorship and growth rates of the colonies. Given the timeline for outplanting, there will be limited time to monitor survival and growth rate within the project timeframe. 'Good' survivorship and growth rates are not quantified.
- Indicator 2 incorporates Indicator 9 (Mauritius) and Indicator 29 (Seychelles) thus is considered duplicative as it aggregates information reported in other indicators. It is intended to be measured through the livelihood survey, which is facing numerous challenges in terms of implementation, relevance, and analysis (discussed further below). The indicator includes people benefitting indirectly which is hard to measure and it is not clear that this indicator will be strictly achievable in Seychelles.
- Indicator 3 is a combination of Indicator 6 (Mauritius) indicator 27 (Seychelles)
- Indicator 4: Targets revised at Inception. Appears to be Seychelles specific and is assumed to relate to publication in a scientific journal given the ambition of just 1 publication.
- Indicator 5: Not clear if this is achievable as this level of detail is not provided in write up of activities or workplan. Audience for the briefs also not clear (e.g. technical or layperson).
- Indicator 6: Targets are a combination of indicators 18 and 20, which should be lower than target in indicator as are specific to people engaged in maintenance and monitoring. It is suggested that the indicator and targets are revised to better reflect activities under this output around training and awareness raising.
- Indicator 10. Indicator not SMART – does not specify number of coral. Further, the view was expressed that it is not appropriate for the PSC to validate species identification as specified in targets, which requires a coral taxonomic expert. Others noted that expertise across the PSC, RSAC and CTA exists to undertake an initial identification, which would then need to be validated by a specialist. At present APs are using local expert knowledge to select donor sites, where they know corals have survived previous bleaching events. The PMT and PSC need to agree the process for validating the coral species.
- Inconsistency between Indicator 10 "resilience", Indicator 11 "locally threatened" and Indicator 12 "high thermal tolerance". These should be consistent (or considered as equivalent).
- Indicators 12 and 32: Percentage of high thermal tolerance corals collected from donor sites for propagation in nurseries. The 'target' of 10% presented reflects standard best practice guidance – it is not a target. APs in Seychelles consistently report "not more than 10% of each donor coral colony was collected". Further, target is not relevant to some APs/NGOs who are collecting and using corals of opportunity (i.e., pieces of already broken coral found loose on the seafloor), while other APs/NGOs are wild harvesting corals from donor sites.
- Indicator 16: Indicator not very clear but taken to refer to nursery at AFRC.
- Indicator 22: A simpler indicator would be "Number of corals propagated through sexual reproduction". This is achievable once the land-based nursery is constructed, but perhaps too specific, because there will be two land-based nurseries one focused on asexual production, the other on sexual production.

- Indicator 25. Overlap with indicator 1. Shoreline protection is assumed as the result of coral restoration, but this impact will only be able to be determined several years after the plantation of corals. During project implementation it will only be possible to capture baseline data. Targets have changed as per the Responsible Party Agreements (RPAs) in Mauritius and Rodrigues.
- Indicator 26 and 46: Not considered achievable, measurable and baseline data missing. Using a fixed percentage increase in any one of these parameters, while initially appearing SMART, is not guaranteed to be either achievable (A) or realistic (R), given the fact that natural ecosystems are inherently variable, particularly with regards to fish. In relation to fish biomass, fish catch and fish density**,** most of the project sites are protected areas where fishing is not permitted (e.g., Blue Bay Marine Park in Mauritius and St Anne, Cousin and Curieuse in Seychelles) hence fish catch is not an appropriate indicator for use in these project sites. In some project sites, fishing is permitted such as specific areas within the Southeast Marine Protected Area (SEMPA) in Rodrigues and Grand Port Fishing Reserve in Mauritius, where the nurseries have been established. The project document does however note that 'It is foreseen that these reef fish increases will eventually spill over from the MPAs and become available to fishers. Nearby control sites will also be selected to scientifically quantify the results of the coral reef restoration efforts.' The use of BRUVs to detect changes in fish communities before and after outplanting was proposed for those APs / NGOs with capacity to implement it at the project steering committee (PSC) October 2023, but was not adopted as a resolution. In Mauritius and Rodrigues training and equipment would be required to use BRUVS, which are not budgeted for. While standard national and regional coral reef monitoring methods, include methods for monitoring fish, fisheries monitoring programmes in Mauritius, Rodrigues, or Seychelles, are not going to be able to provide the level of detail required to detect a change in catches over the timeframe of the project[21], which would require more detailed monitoring methods. While it may be possible to increase coral cover by 10%, the related increase in fish density or diversity is less certain. A better target could be "A 10% increase in live hard coral cover from the baseline and a positive increase in one or more other indicators of reef health (e.g., fish diversity, fish density, fish biomass)." It is also noted that there is a discrepancy between targets set for each country – with no mid-term targets set in Mauritius, but targets of a 5% increase set in Seychelles.
- Indicator 27. Overlap with 3 although total is 46 in indicator 3.
- Indicator 30: Not captured by Indicator 31, but could be. As for indicator 10, the approach to validate coral is yet to be determined.

[21] There will be some changes evident within a short time frame if there are healthy fish populations nearby the restoration site. However, it is well established that most restoration projects have been short-term efforts, often of not more than a 12-month duration, with limited funding for follow-up. So monitoring is often not continued after the project is completed. Ideally a 3-5-year monitoring period is recommended for adequate ecosystem stabilization due to the slow growth of corals (Precht, 2006). Studies that have monitored the development of communities on artificial reefs compared to natural reefs over time, found that it took 4 years for the benthic and fish assemblages on the artificial reefs to develop and stabilize (Thanner, 2006). Other studies that compared artificial reefs and nearby natural reefs for 5 years found that at the end of this period, the similarity between the Scleractinian (hard coral) and octocoral (soft coral) community composition was 70% and 63%, respectively (Hannes, 2008). Burt (2009) compared artificial and natural reefs in the Arabian Gulf and although they found coral cover to be higher on artificial reefs coral diversity was lower and fish communities differed, even after 25 years. These studies highlight the need for long-term monitoring to assess the success of restoration projects. It takes time to replicate the functions of a natural ecosystems and demonstrating this requires long-term comparisons and a commitment to longer term monitoring, which is always contingent upon funding availability.

- Indicator 37. Duplicate information with indicator 3.
- Indicator 40 – Duplicate information with indicator 1.
- Indicator 41. Number of people involved in cementing corals to the degraded reefs and monitoring restoration effects. This indicator is specific to cement and only some APs are using this approach including Nature Seychelles and MCSS. Hence, some APs/NGOs have been reporting the number of people involved in all translocating activities. It is also, not clear what this indicator is trying to ascertain.
- Indicator 42. As indicated above under indicator 25, to monitor some of these indicators specific equipment and staff training is needed, which are not budgeted for. Nature Seychelles has been able to mobilize co-financing for BRUV to measure fish biomass. Nurseries are still being set up and time is needed before any related increase in coral and fish populations may be evident.
- Indicator 42/50: TOR of PSC does not include validation of reports.
- Indicator 51: This can be moved to output 3.2.1 – relates to 3.2.1.3 Participation in relevant international symposium. Should also refer to regional forum. This is a very low ambition / target and is assumed to relate to target 4 which mentions the publication of 1 scientific paper.
- Numerous Indicators relate to climate resilient corals – so technically may not be met.

Anse Forbans in Seychelles is the only project site that is not a protected area and was originally included in the project as a site with community-based activities. The Anse Forbans site was a partnership with the Double Tree Allamanda / Anse Forbans Community Conservation Programme but due to COVID-19 restrictions access to the site was difficult in 2020 and 2021. Hence at the Inception stage of the project, MCSS were concerned that the original target of 0.25 ha would not be met at Anse Forbans and requested to reduce the target to be restored from 0.25 ha to 0.1 ha, compensated by an increase in area at Ste Anne from 0.25 ha to 0.4 ha. At mid-term, it is proposed that the area to be restored at Anse Forbans is further reduced to 0.05 and Saint Anne increased to 0.45ha (as proposed to the PSC in 2023). Justifications for this are that it is logistically challenging and expensive to transport coral to the site, the MCSS project at Anse Forbans has closed because of COVID-19 so they no longer have a base at the site, and there is no longer a strong community involvement.

3.2 Progress Towards Results

3.2.1 Progress Towards Outcomes Analysis

Annex 3 presents the detailed Progress Towards Results Matrix (Achievement of outcomes against End of Project (EOP) targets), with summary tables by objectives and outcome presented below. Many activities are behind at mid-term, and only 19 out of 48 mid-term targets have been achieved (39%) and 15 indicators (28%) are considered not to be on track.

Key Achievements of the project to mid-term include: (i) the impressive coral restoration work being undertaken across the project sites, by experienced and committed APs / NGOs, under challenging sea conditions; (ii) equipment procured and deployed (e.g. temperature loggers, current meter loggers) despite supply chain constraints caused by COVID-19; (iii) in Mauritius the work with the beneficiaries and the engagement of communities and hotels, which should support the sustainability of project outcomes; and, (iv) in Seychelles, APs are largely on track to meet their EOP targets and there is the opportunity to learn from the numerous experiments being undertaken by Nature Seychelles and SPGA sites, which are yet to be documented and shared amongst partners.

However, the project has faced numerous institutional, structural and external **challenges**, which have been taken into account when assessing progress at mid-term. These include:

COVID-19. The official start date of the project was November 2020, in the midst of the COVID-19 pandemic The first 2 years of the project were hampered by lockdowns and restrictions in movement in Mauritius and Seychelles, thus hindering field work and face to face meetings. The first in-person technical meetings and Project Steering Committee (PSC) were held on 8th and 9th November 2022 respectively. COVID-19 also impacted supply chains and freight costs and schedules resulting in delays in the delivery of equipment needed to initiate surveys and other activities. NGOs also found it hard to mobilize financial resources. With the tourism sector now picking up this is expected to improve.

Cost escalation. The impact of COVID-19 and the war in Ukraine significantly increased the cost of equipment due to increases in freight costs (e.g. due to the increase in the cost of fuel) and worsening supply chains. A key concern raised during the PSC meeting of 9 November 2022 was the funding constraints facing APs/NGOs given the significant increase in the cost of materials, fuel and freight, making it challenging for them to implement activities and meet their targets within the existing budget.

Procurement challenges include: (i) commissioning of some equipment was not possible due to accessories not supplied by supplier; (ii) delays in the launching of the RFP for DNA sequencing as clearance had to be sought from both Governments, Regional Bureau for Africa (RBA) on procurement and UNDP Legal Office on IP issues. It was the first time UNDP was undertaking such a procurement and several consultations were needed to ensure adherence with the Nagoya Protocol and intellectual property (IP); (iii) despite two rounds of procurement, it was not possible to identify a developer for the project website; and, (iv) the project has faced challenges replacing positions within the PMT with the appropriate skill level.

Capacity and resource constraints

- Coral restoration activities are very labour-intensive and AP/NGOs in Mauritius and Seychelles are facing various capacity constraints and staffing challenges.
- The project design developed in 2015 relies heavily on in-kind support by the staff of MOI and AFRC in Mauritius for several core activities (including surveys, land-based nurseries and genetic analysis). However, with the departure retirement and/or transfer of several key staff at MOI with expertise in coral restoration, current patterns and chemistry, the capacity of these institutions to support the project has been severely constrained, putting pressure on project delivery. While AFRC staff are providing assistance and MOI is planning to recruit new staff, it is still difficult to keep up with the initial workplan as new staff require adaptation time and training.
- Ministry of Blue Economy - there has been high turnover of staff, with 5 people engaged in the project. Delays in obtaining approval from the Ministry of Blue Economy (e.g. on pre-feasibility and draft feasibility reports for land-based nurseries and on the Coral Restoration Plan) has also impacted project delivery.

Elections. Regional elections in Rodrigues in February 2022 (with new Government in place as of April 2022), caused delays in the implementation of some activities by NGO Shoals Rodrigues. Elections in Seychelles resulted in a change in Government in October 2020, with the next elections planned for 2025, which may affect continuity of government staff engaged in the project. Elections are also planned in Mauritius in 2024.

The worsening of climate conditions. The APs /NGOs have all faced deteriorating weather conditions resulting in less time available to work at sea. For example, in Seychelles, the SE Monsoon has been intense, limiting the number of days it is possible to dive. El Niño and the high possibility of a marine heat wave and coral bleaching in the Indian Ocean during the summer of 2023/2024 and possibly 2024/2025 is also a significant risk. The corals being propagated in the nurseries and outplanted on the reef could bleach and possibly die making it impossible to meet numerous project targets.

3.2.1.1 Objective level

OBJECTIVE 1: 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, AT A LARGER SCALE THAN EVER TESTED IN THE PAST

MTR rates progress at Objective level as **Moderately Satisfactory**.

There are 3 indicators under Objective 1. One has been exceeded, and two are not on track to reach the end of project target (Table 1).

Table 1: Objective 1: Summary of Progress towards results

Indicator Assessment key:	Achieved	On target to be achieved	Not on target to be achieved

Indicator	Midterm Level & Assessment	Achievement Rating[1]
1/Targeted degraded sites restored to scale using farmed corals, *with good survivorship and growth rates of the colonies*		MS
2/Number of stakeholders with improved livelihoods due to *new* and *sustained* employment & business opportunities related to coral restoration activities and/or due to the improved coastal and marine ecosystems supported by the restored corals		MS
3/Number of people trained and involved in the establishment, maintenance and monitoring of successful ocean nurseries for corals		HS

Note: 1/ Achievement rating: HS – Highly Satisfactory; S – Satisfactory, MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory

Indicator 1. *Targeted degraded sites restored to scale using farmed corals, with good survivorship and growth rates of the colonies.* In **Mauritius,** mid–term targets have not been achieved as restoration work will start in 2024 as per RPAs. In **Seychelles** the total restored area to date is 0.88 ha (92% of the mid-term target). It is unlikely that all APs/NGOs will meet their EOP targets, which are contingent on numerous variables some of which are outside of the control of the APs (e.g. weather conditions).

Indicator 2: *Number of stakeholders with improved livelihoods due to **new** and **sustained** employment and business opportunities related to coral restoration activities and/or due to the improved coastal and marine ecosystems supported by the restored corals*. Mid-term targets have not been achieved and it is not clear how end of project targets will be achieved. In Mauritius the stipend provided to the beneficiaries trained by the project is being used against this indicator (117 at mid-term so below mid-term target of 200 people), but there is no evidence that this is a

sustainable source of income beyond the project (in fact it is a challenge for the project to retain workers due to low pay being offered). It is not clear how this indicator will be met in the Seychelles. To date the project has reported training data against this indicator which is not relevant to this indicator (it is captured under indicator 3). Training is not the same as 'new and sustained livelihoods'. Data for this indicator is intended to be provide through the livelihood surveys, but the surveys are proving difficult to implement particularly in Seychelles and it is not clear they will provide relevant or reliable information (discussed further below).

Indicator 3 - Number of people trained and involved in the establishment, maintenance, and monitoring of successful ocean nurseries for corals. In Seychelles the mid-term target has been exceeded, while in Mauritius the end of project target has been exceeded.

OBJECTIVE 2: TO GENERATE KNOWLEDGE ABOUT EFFECTIVE RESTORATION TECHNIQUES FOR DISSEMINATION TO OTHER SIDS AND COUNTRIES WITHIN THE WIDER REGION

There are two indicators under Objective 2, one has met the mid-term target, and one has no mid-term target, but is considered off-track.

Table 2: Objective 2: Summary of Progress towards results

Indicator Assessment key:	Achieved	On target to be achieved	Not on target to be achieved

Output/ Indicator	Midterm Level & Assessment	Achievement Rating[1]
4/Number research papers on coral reef restoration submitted for presentation at various scientific forums in the WIO and globally, with female scientists' participation in publication efforts actively supported.		S
5/ Number of "lessons learned" generated and disseminated through various communication channels and knowledge exchange fora on the practical topics relevant to the coral restoration efforts at scale.	**No mid-term** target but not on track	Not on track

Note: 1/ Achievement rating: HS – Highly Satisfactory; S – Satisfactory, MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory

Indicator 4/*Number research papers on coral reef restoration submitted for presentation at various scientific forums in the WIO and globally, with female scientists' participation in publication efforts actively supported*. This indicator does not appear to include Mauritius but refers to least 1 female scientist participating in publication efforts by mid-term in Seychelles. Nature Seychelles presented "Testing performance of nursery methods in a coral restoration project, Cousin Island, Republic of Seychelles" at the 12th WIOMSA symposium and the paper is expected to be finalized in Q1 2024. This paper was drafted with the support of a female scientist and the mid-term target has therefore been achieved. Achievement of the end of project target requires that the paper is published.

Indicator 5: *Number of "lessons learned" generated and disseminated through various communication channels and knowledge exchange fora on the practical topics relevant to the coral restoration efforts at scale, including 1) coral restoration financing, 2) climate change resilience of the applied techniques, 3) upscaling efforts, 4) financial and technical sustainability, 5) stakeholder and private sector engagement and buy-ins, 6) women and youth empowerment*. The plan for developing and presenting / disseminating specified briefs is not clear. There is no mid-term target as the indicator was updated during the inception workshop. It is suggested that APs/NGOs will provide inputs and the PMT and CTA will collate. Four of these briefs were

included in the CTA's deliverables. However, with the agreement of the RPM the delivery was paused pending the launch of the project landing page on UNDP-Mauritius and Seychelles website and because the project was not advanced enough to deliver relevant content. Briefs are not articulated under any of the activities in the project document. A publications plan is needed going forward. It is understood that one brief has been prepared to date by in UNDP publication Gendered Voices under the theme 'Women and the Ocean' which covered one of the project beneficiaries. The EOP target was updated at mid- term to: At least 1 brief on coral restoration financing; At least 1 brief on climate change resilience; At least 1 brief on coastal restoration at scale.

3.2.1.2 COMPONENT 1: ENHANCEMENT OF FOOD SECURITY AND REDUCTION OF RISKS FROM NATURAL DISASTERS THROUGH THE RESTORATION OF DEGRADED REEFS IN MAURITIUS[22]

The MTR rates progress as **Moderately Satisfactory**. For Component 1, 8 mid-term targets have been achieved, 3 are on track, 6 are not on track and 3 have ***no mid-term targets*** but are likely to be challenging to fully meet by the end of the project (Table 3). Thus, at mid-term, 44% of the mid-term targets have been achieved (8 of 18 indicators with mid-term targets) and 42% are considered not to be on track (9 of 21 indicators, i.e. including indicators without a target at mid-term). It is recognized that the NGOs have made good progress, especially given the late start and that work is on a positive trend, albeit with very challenging EOP targets which will need closer assessment and possible revision. The main concern relates to the delays to the land-based nurseries, largely due to administrative delays.

Table 3: COMPONENT 1: Summary of Progress towards results

Indicator Assessment key:	Achieved	On target to be achieved	Not on target to be achieved

Output/ Indicator	Midterm Level & Assessment	Achievement Rating[1]
OUTCOME 1.1: Improved livelihood for sustainable partnerships and community based approach to reef restoration		S
6/ Number of community members trained in establishing and maintaining proposed coral nurseries		HS
7/ Number of coral restoration economic and financial strategies developed for sustainable financing mechanism		MU
8 /Number of partnership agreement signed for job opportunities		HS
9/ Number of people benefiting from improved income as result of the project, with particular attention given to increasing beneficiaries from female-headed households.	.	HS
OUTCOME 1.2: Coral farming and nursery facilities established at a sufficient scale for more climate change resilient corals		MS
10/ Number of coral species for propagation based on resilience and genetic diversity identified.		MS
11/ Number of donor sites with locally threatened species (Mauritius & Rodrigues) identified		HS
12/ Percentage of high thermal tolerance corals collected from donor sites for propagation in nurseries.		MS
13/ Number of surveys for identification of nursery sites (Mauritius and Rodrigues)		S
14/ Number of Environmental and Social Monitoring surveys carried out		HS
15/ Number of Land based nursery established and operational		MU

[22] PPR1 and PPR 2 rates component 1 as Satisfactory.

16/ Number of infrastructures for nursery seeding from sexual reproduction (Mauritius) established		MU
17/ Number of ocean-based nurseries established and operational in **Mauritius**		HS
18/ Number of community members involved in the maintenance and monitoring of new ocean-based nurseries in **Mauritius**		S
19/ Number of ocean-based nurseries established and operational in **Rodrigues**		S
20/ Number of community members involved in the maintenance and monitoring of seabased nurseries in **Rodrigues**		S
21/ Number of coral fragments under culture in **land-based nursery** (Mauritius)		MU
22/ Percentage of coral polyps successfully settled in situ		MU
23/ Number of coral fragments under culture in new **sea-based nurseries** in Mauritius	No mid-term target but not on track	Not on track
24/ Number of coral fragments under culture in **sea-based nurseries** in Rodrigues	No mid-term target but not on track	Not on track
OUTCOME 1.3: The health of degraded reefs restored, through active restoration work, maintenance and monitoring efforts, leading ultimately to greater protection of shore from flooding and storm damage		MS
25/ Areas of site successfully restored using farmed corals of resilient species in Mauritius and Rodrigues		MS
26/ percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment, fish biomass, fish diversity and fish catch amongst others)	No mid-term target but not on track	Not on track

Note: 1/ Achievement rating: HS – Highly Satisfactory; S – Satisfactory, MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory

The Mauritius Beneficiary model for Coral Restoration.

Table 4 provides an overview of the NGOs in Mauritius working on coral restoration.

Table 4: Overview of NGOs' progress on Coral Restoration in Mauritius and Rodrigues

Eco-Sud	Reef Conservation	Shoals Rodrigues
• Contract period: October 2021- July 2026 (4 years and 9 months) • Beneficiaries - 43 trained and certification ceremony held on 6 May 2022. 36 regulars remain. They have been given equipment – masks, fins, boots, weights, wet suits, dive bags, to keep. • Nurseries. Started building nursery structures in August 2022, but didn't populate nurseries until May 2023. Working with 18 species which are growing well so far. 200 (out of 250 table nurseries) and 75 (out of 100) rope nurseries deployed • 10,250 fragments under culture. EOP 120,000 (shared with Reef Conservation) • Ability to meet outplanting targets depends on coral growth in nurseries and manpower	• Contract period: March 2022 – August 2026 (4 years and 5 months) • Beneficiaries - 45 trained and certification ceremony held on 23 November 2022. 35 remain. Many are from marginalized communities and were unemployed. When they leave the project they are required to return project equipment. • Nurseries set up at Grand Port Fishing Reserve. As of November 2023, most of the rope nurseries have been populated (with 5 to be completed by end of 2023). Work will then start to populate nurseries in Blue Bay Marine Park. Aim is to have all nurseries populated by September 2024 allowing a year to grow, so that they can transplant in 2025-26, • 78 (out of 150) table nurseries and 48 (out of 100) rope nurseries deployed in GPFR • 9,567 fragments under culture (EOP 120,000 shared with Eco-Sud). Likely to be delays as they need to look for additional donor sites as the ones identified 3 years ago are now mono species specific. • If they continue on the current track and coral collection permit is not extended (as has been requested), will not meet targets, largely due to labor constraints and limited window for coral collection.	• Contract period: November 2021 – July 2026 (4 years and 8 months) • Beneficiaries – 30 were trained and 10 have already left. • Mostly using broken fragments (corals of opportunity) rather than breaking coral at donor sites. Additional donor sites have been identified. • The **sea nurseries** are in the conservation zone, where extractive activities are not normally allowed. Growth of coral has been slow and certain amount of death at some sites. The best sites may not have been selected. • 80 tables nurseries and 11 rope nurseries out of 44 deployed at 3 sites • 11,413 fragments have been cultivated and the EOP target of 40,000 considered to be an overestimate and needs to be revised down. • Outplanting yet to start and unlikely to meet end of project target of 50,000 coral outplanted over 1 ha. If can get clearance to outplant directly from donor sites using corals of opportunity could meet target. This also indicates that in some cases tables and rope nurseries may not be needed.

In Mauritius the training and employment of community members in coral restoration is core to the coral restoration model being trialed. It has the dual potential benefits of improving livelihoods of vulnerable community members while enhancing core coral reef ecosystem services which reinforce the livelihood and resilience of communities. The criteria for selecting beneficiaries were set by UNDP and included a requirement that 33% of the beneficiaries are women.

In total 117 beneficiaries have been trained[23] and directly engaged by the NGOs in coral restoration activities. They receive a daily stipend which is improving their quality of life. Beneficiaries interviewed by the MTR noted the difficulty of work – not everyone can swim,

[23] Training covered: Snorkeling and Emergency First Response (First Aid); Construction of rope nurseries; Coral plantation techniques; Establishing, monitoring and maintaining coral nurseries in the ocean; Transplantation of corals; and, Monitoring and maintenance of restoration sites

weather / currents, but consider it a great experience and are proud of their work. They would like more work and more training (e.g. additional snorkeling to build their confidence and training in scuba diving). They hope that the work experience with the project will help them get jobs in hotels / tourism sector, aided by the certificates they have received from the project.

However, the approach is not without its challenges. The difficulty of meeting very ambitious targets with an inexperienced non-diving workforce was noted, along with the issue of some unmotivated staff and high dropout rates as trained beneficiaries leave for better paid jobs. It was suggested that it would have been better for the APs to have had some flexibility in the recruitment of a proportion of the beneficiaries, to identify the best qualified staff, instead of being required to strictly adhere to the criteria applied. The current stipend of 5,000 MUR a month is not enough for people to commit to the project and thus the NGOs are facing a loss of workforce and morale. Most of the remaining beneficiaries are dedicated and motivated but require additional incentives to stay. In some cases, NGOs operate a roster, which allocates workdays across the group. T**he lack of a sufficient workforce is the main risk to NGOs meeting their targets** hence a solution needs so be found to retain trained and dedicated staff. The following options were discussed as part of the MTR:

- Train more staff to replace beneficiaries who have left. This is not considered viable as there is no time or budget to train new people and if coral restoration work is to accelerate there is a need for experienced staff who can dive.
- Increasing days for existing staff is not feasible as it is not possible to give all beneficiaries more work within the budget.
- Decrease targets. On its own this is unlikely to solve the staff retention issue as it is likely to result in even fewer days being offered.
- Secure a smaller committed / reliable group of trained beneficiaries by offering more days. At this stage in the project, it is considered better to have fewer people working more than many part time staff who may or may not turn up. The advantages of this approach are: (i) it is likely to improve efficiency and retention; (ii) it may favor women as part time work is more suitable for women as men have more opportunities to find alternative work, for example on infrastructure projects which are better paid. This option would require contract adjustments at mid-term as beneficiaries who have not officially left may well come back if days are increased. It was suggested to include a clause that if a beneficiary doesn't turn up for a month they would lose their place. Consideration also needs to be given to how such an approach can be put into effect without losing the support and goodwill of local communities.

It is **recommended** that the RPM works with individual NGOs to identify the optimal workforce to meet its targets and solutions to securing a reliable and effective workforce within their available budget. This may include a mixed workforce of trained beneficiaries combined with qualified divers associated with the project. Based on preliminary discussion through the MTR: (i) **Reef Conservation** report that they need at least 30 reliable people (2 groups of 15 people working simultaneously at each site). The remaining beneficiaries can be supplemented by volunteers and boat operators who can dive, some of whom come from marginalized communities. If budgeting for only 30 people it would be possible to give everyone more days, which should help with retention; (ii) **Shoals Rodrigues** has lost 10 beneficiaries and propose to replace them with their own staff who are also members of the local community; they do not have the time to recruit and train new beneficiaries. The alumni of Club Mer, which has been running for 20 years is also a source of potential recruits. This programme trains children to swim, snorkel and dive – and would align with the youth criterion of the project and selection could also draw from fisher families. There is also the opportunity to engage government divers in nursery maintenance, outplanting and monitoring, as envisaged by the project. This requires a concrete plan as to how

they might be integrated into the project and released from their current functions. An agreement is needed with the RRA to realize this support.

The main challenges facing NGOs in Mauritius and Rodrigues are:

- **Fieldwork is highly dependent on sea and weather conditions.** For example, Reef Conservation in Mauritius had to postpone much of the fieldwork planned for May and June 2023 due to storm surge warnings. In June 2023 extremely low tides were recorded during the new and full moon phases. These tides, locally known as "Marée Madeleine," which range between 0.3m to 0.6m below the average low tides, make access to the coral nursery and donor sites in Mauritius very difficult and leave the rope nurseries exposed.
- **Mainly mono species at donor sites (Mauritius)**. For example, for Reef Conservation, most of the donor sites located adjacent to nursery sites CN4 and CN5 are either monospecific, low in species diversity, or lack sufficient coral colonies for sampling fragments from specific coral species. This increases the distance needed to travel to collect corals and has implications in terms of the costs (staff time and fuel costs). It is important to improve genetic variability during outplanting to allow for long term ecological adaptation and to increase population resilience to climate change.
- **Budget issues.** (i) No budget for transplantation and awaiting MOI recommendations on areas to be targeted for transplantation and methods to be used. It is important that the NGOs are included in discussions to determine the transplantation methods. Reef Conservation are considering spider frames and plan to trial different techniques before embarking on their main transplantation effort; (ii) Insufficient money / days allocated to undertake effective maintenance critical to preventing coral mortality in the nurseries; and, (iii) no budget to replace lost and broken equipment such as gloves, fins and masks.
- **Insufficient human resources, labor intensity and low capacity.** In addition to the issues associated with beneficiaries discussed above, not all NGOs are familiar with the recommended nursery methods and some nursery methods are not well suited to all lagoon environments. The project is only funding 1.5 staff for APs in Mauritius and Rodrigues - which is insufficient given number of beneficiaries to manage and reporting requirements. For example, Shoals Rodrigues has a small team consisting of two part time staff members at Shoals Rodrigues and a Project Coordinator from Mauritius Wildlife Foundation (part time), which is insufficient. It is proposed to relocate time from the Project Coordinator (who has only spent 50% of his allocated time this year) to technical staff who are overloaded.
- **Threats to the coral restoration** work include:
    - Tour operators using speed boats and boat anchors. There is a need for boat owners to take ownership and to engage them in the project. In this respect, Eco Sud have used a roster of glass bottom boat operators for transport when undertaking work at sea. Buoys are also being used to mark the nurseries. Monitoring and enforcement of MPAs also needs to be strengthened.
    - Crown of Thorn Starfish (COTS) (BBMP) can get on table nurseries very easily and the NGOs want to trial a different restoration technique in BBMP of putting coral on raised platforms where COTs can't climb.
    - There is some illegal fishing activity within SEMPA and interference by fishermen of nurseries. Fishermen are fined if caught but there is reportedly a reluctance to do this because 'everyone knows each other'. Shoal Rodrigues is trying to build the support of the National Coast Guard and Fisheries Protection Service.
    - Water quality and clarity in Blue Bay Marine Park. There is an issue with sediment laden land-based run-off, which is also likely to contain high levels of nutrients from the fertilizers applied to the sugar cane fields inland of Blue Bay. Further, the permitting of high-speed motorized water sports inside Blue Bay is problematic. In particular, the

waterski lane inside the marine park by Shandrani hotel results in the continuous resuspension of fine particulates, which reduces water clarity and light penetration through the water column. Water-quality monitoring has not been carried out due to lack of adequate equipment.
    - Coral bleaching.
- **Branching coral** are fast growing and well suited to conditions in Mauritius. The NGOs are contracted to use it but they are not liked by local communities (fishermen and tourism boat operators) because they block boat passages, damage boats and don't attract the types of fish they want to catch. The NGOs have had to reduce the number planted to reduce conflict.
- **Disproportionate amount of reporting and heavy administrative burden without a budget**. Future projects need to consider administrative time for small organization.
- Delays and difficulties procuring snorkeling and scuba equipment due to COVID-19, lack of materials in Rodrigues and Mauritius and unresponsive suppliers.
- In Rodrigues several project activities were added, some without administrative support, including training of RRA divers, genetics fieldwork, deployment of buoys and signage and photogrammetry monitoring.

OUTCOME 1.1: IMPROVED LIVELIHOOD FOR SUSTAINABLE PARTNERSHIPS AND COMMUNITY BASED APPROACH TO REEF RESTORATION

The intention is that training coastal communities in establishing and maintaining coral nurseries and transplantation will translate into new sources of revenue for these communities. Livelihoods have been supported through the social contracts signed with beneficiary communities. However, the work is part time and sustainability beyond the project is not assured. There are however, potential opportunities with hotels in coral restoration work and/or in the delivery of coral reef tourism products. This should continue to be pursed in the second half of the project.

Output 1.1.1 Coastal communities benefit from improved livelihoods through employment establishing and maintaining coral nurseries and transplantation sites.

Based on the activities and indicator for this output, this output is focused on training and awareness raising and should have been more specifically titled to reflect the training aspect and distinguish it from output 1.1.2.

Activities:
1.1.1.1 Stakeholder analysis
1.1.1.2 Training of community members in establishing and maintaining coral nurseries in Mauritius and Rodrigues
1.1.1.3 *Awareness campaign on coral restoration in Republic of Mauritius*
1.1.1.4 Training of direct beneficiaries in snorkeling and advance PADI or other relevant diving qualification.

The mid-term target for indicator 6 of at least 500 community members in Mauritius and Rodrigues trained in establishing and maintaining proposed coral nurseries has been exceeded. At least 117 beneficiaries have been trained and are engaged directly by the NGOs in coral restoration work. Data reported are disaggregated by sex, age and household status and show for example for Reef Conservation 44 community members trained, 53% female, 44% aged between 18-25 years and 53% are from the vulnerable group. The beneficiaries deemed the training to be intensive but rewarding. In addition, Eco-Sud has trained 431 people in the hotel sector co-financed by 2 hotels - Lux resorts in the south-east and Tamassa Hotel in the south**.** This co-financing enabled the project to surpass its target for training. Furthermore, Eco-Sud ran an educational program which benefitted 415 people (395 youth, and 56% female).

Output 1.1.2 Coastal communities benefit from improved livelihoods through increased revenue from alternative work including tourism (glass bottom boat tours, snorkeling and diving trips

The nursery sites and restored sites (in MPAs) are intended to generate new income opportunities for coastal communities by increasing tourist activities. The four activities with corresponding indicators under this output are described below.

1.1.2.1 Development of a coral restoration economic and financial strategy.

As specified in the project document, to support the development of a coral reef restoration economic and financial strategy, a report on sustainable financing mechanisms for the sustainable financing and maintenance of both the nurseries and the transplantation sites were to be developed. The strategy is to consider the potential sources of funding and the remuneration needed for labor, as well as the costs of maintenance and monitoring programmes and equipment purchase and thus links to sustainability.

The mid-term target for indicator 7 is that 1 coral restoration economic and financial strategy developed for Mauritius and Rodrigues. While Reef Conservation and Eco-Sud have prepared strategies for sustainable financing the intention was to contract a consultant to develop an overall strategy for generating revenue and financing for coral restoration. This has not been done as yet. Reporting against this indicator to date has focused on partnership agreements with hotels which duplicates data reported for indicator 8. However, the information is pertinent to the strategy to be developed.

1.1.2.2 Establishing partnership agreement with community groups

For indicator 8 - Number of partnership agreements signed for job opportunities, the mid-term target that at least 1 agreement is signed, and new employment opportunities created at mid-term has been exceeded. **Reef Conservation** has signed partnership agreement with Compagnie de Beau Vallon which owns Preskil Hotel in the Southeast of Mauritius, which will support the project implementation of coral restoration activities by providing in-kind (e.g. office and club house for training) and cash contributions of USD 186,757 up to 2026. **Reef Conservation** signed 3 MOUs with 3 hotels - Beachcomber Paradis Le Morne, Beachcomber Trou aux Biches, and Heritage Resorts Bel Ombre. **Eco-Sud** has also signed MOUs with LUX Resort and HELIOS in 2023.

Of note is the work being undertaken with the Association of Hoteliers and Restaurants in Mauritius (**AHRIM**), who sit on PSC. Lagoons are of relevance to most hotels in Mauritius and the importance of coral reefs as a tourism attraction and as a barrier against shoreline erosion is well appreciated by the hospitality industry. AHRIM are currently working with 3 hotels to install small scale reef restoration sites in front of their hotels. MoUs have been signed with the hotels, each of which will contribute 1.7 million MUR for projects spanning over 2 years. Necessary approvals and permits have already been granted by concerned authorities for the projects to be implemented. More hotels are to be invited to join the programme in January 2024.

In Rodrigues, work with the private sector is at an early stage, and lessons can be gained from experiences in Mauritius. There are few large hotels in Rodrigues, and to date a lack of interest from the tourism sector in coral restoration. Shoals Rodrigues plan to meet with managers and directors in 2024 to develop a fund-raising plan and sensitize hotels.

1.1.2.3 Livelihood survey to evaluate impact of project on beneficiaries.

Indicator 9 – the mid-term target of 50 people benefiting from improved income as result of the project has been exceeded with a total of 141 beneficiaries receiving stipends under the project. Around 30% are from female headed households. A livelihood survey is being used to inform this and other indicators relative to livelihood creation, but there are reservations surrounding its fitness for this purpose, especially in the Seychelles (see Box 2).

Box 2: Livelihood Survey

The livelihood survey was designed remotely by a consultant from the UK and does not appear to have followed best practice. It was not tested via focus groups or piloted to ensure its applicability at the project's sites before being rolled out. This is an oversight, given the significance being placed on the livelihood survey in supporting several of the project's indicators. **All APs are facing difficulties implementing the survey**. The survey instrument is too long, not contextualized to local circumstances, the questions are very personal and the relevance is not always clear to respondents and hence they reportedly do not want to answer or to put their names on the questionnaire. The intention was to track respondents over time with the questionnaire being updated regularly (quarterly). The PNCC-Seychelles, July 2022, agreed that it would be conducted three times in total.

The livelihood questionnaire is of more relevance in **Mauritius** as the NGOs are directly working with beneficiaries from communities, and some of the NGOs have modified the survey instrument in an effort to encourage more people to complete the questionnaire and make it more useful.

In **Seychelles** finding people prepared to answer the survey has been even more challenging and time consuming. It is unclear if work on the ground will improve livelihoods, e.g. of boat operators, dive businesses within the project lifetime. AP staff members have been responding as direct beneficiaries and in general a limited number of questionnaires have been returned and are typically incomplete. Curieuse island is isolated so it is not clear who should answer. For Nature Seychelles, the survey could be more relevant once their land-based nursery is operation. It is recommended to reconsider the use and framing of the livelihood survey in the context of Seychelles. For Nature Seychelles it could be adapted to elicit information via focus groups to inform their business plan. However, Nature Seychelles noted that the existing team is busy with field work and reporting requirements, and it was requested that additional budget be provided to hire a dedicated person to manage the survey. This could potentially be a student to keep costs low.

A consultant is reportedly being hired to analyze the raw data that has been collected so far through the surveys. In addition it is being proposed that the TOR of this expert be extended to include how best to streamline the questionnaire and make it more relevant to the different communities that are interacting with the different APs.

OUTCOME 1.2: CORAL FARMING AND NURSERY FACILITIES ESTABLISHED AT A SUFFICIENT SCALE FOR MORE CLIMATE CHANGE RESILIENT CORALS

Output 1.2.1 Donor coral colonies of appropriate species (resilience, maintaining genetic diversity) available at sufficient scale (quantity, time, intervals etc.) for propagation in nurseries

While the title of this output only refers to donor colonies, activities under this output are broader encompassing selection of nursery sites as well.

Within the MPAs, **nursery sites** were to be selected based on reports (surveys) on coral reef status, water quality, current pattern and key environmental and social parameters. Surveys were also to be completed to identify coral **donor sites** for locally threatened species. This Output

includes a technical assessment and selection of coral species for transplantation based on thermal tolerance (survivors of previous coral bleaching events) *and* genetic analysis of thermal-tolerant *Symbiodinium* clades. Due to delays in the surveys and genetic analysis work (see 3.1.3.1), the selection of nursery and donor sites had to proceed without this information.

The Coral Collection Plan and Nursery Deployment Plan was approved in March 2023 by the Ministry of Blue Economy. It is based on previous coral restoration activities carried out by MOI and their success rate, corals which have survived last bleaching events and corals which are found near to the nursery sites.

1.2.1.1 Technical assessment and selection of resilient coral species

Indicator 10 - Number of coral species for propagation based on resilience and genetic diversity identified. This indicator is not SMART as no number is specified. The mid-term target that coral species identified and validated by the PSC/RSCA has not been possible due to delays in the genetics work.

1.2.1.2. Identification of donor sites

Indicator 11 - Number of donor sites with locally threatened species (Mauritius & Rodrigues) identified. Based on the draft Coral Collection Plan, 8 coral donor sites were identified in Mauritius and 4 donor sites in Rodrigues, exceeding the mid-term target and EOP target, both set at 2.

Indicator 12 - Percentage of high thermal tolerance corals collected from donor sites for propagation in nurseries, is not SMART as the target of not more than 10 % of each donor coral colony collected to avoid death of donor corals at donor site is seen as guidance rather than a target. Collection of corals from the donor sites is behind at mid-term due to delays to the finalization of Coral Restoration Plan and in obtaining interference permits from the Ministry of Blue Economy (Reef Conservation, Shoals Rodrigues) and the permitted collection window.

1.2.1.3: Survey for identification of ocean-based nurseries

Output 1.2.2 Reports on coral reef status, water quality, and other key environmental and social parameters for potential nursery sites

MOI is leading the surveys and oceanographic modelling work and has completed surveys in Mauritius and Rodrigues, Seychelles. Indicator 13: Number of survey for identification of nursery sites (Mauritius and Rodrigues), sets a mid-term target of 3 Reports on coral reef status, water quality, current patterns/flushing and other key environmental and social parameters for potential nursery sites produced. The mid-term target has been met; as of October 2023, 3 reports have been completed – Preliminary surveys, Coral Collection Plan (Mauritius) and Current Pattern Survey (Rodrigues).

1.2.2.1. Monitoring of sea water quality and other key environmental parameters at donor and nursery sites

1.2.2.2 Carrying out the Environmental and Social Impact Monitoring.

Indicator 14 - Number of Environmental and Social Monitoring surveys carried out. The mid-term target of 3 surveys was achieved at PPR2; 8 Environmental and Social Monitoring surveys have been carried out (3 by Eco-Sud, 2 by Reef Conservation and 3 by Shoals Rodrigues).

Output 1.2.3. A land-based nursery and 2 or more ocean nurseries established and maintained on a regular basis. This output includes the following Activities: Setting up of a

large-scale land-based nursery at MOI; Setting up, populating and maintaining 100 table nurseries and 100 multi-layered rope nurseries in BBMP; and setting up, populating and maintaining 50 table nurseries and 40 multi-layered rope nurseries in SEMPA.

MOI Land Based Nursery

In Mauritius, a land-based coral nursery facility with an on-line seawater pumping system is to be built on the premises of MOI. The nursery is focused on a-sexual production of corals under controlled temperature regimes to propagate thermo-resistant species collected from the wild that can eventually be transplanted into the sea. This nursery will be used to propagate locally threatened species, selected massive corals and mother coral colonies to minimize collection from donor sites. Colonies in the land-based nurseries are intended to serve as an insurance in the event of a severe bleaching event.

To function the nursery requires a constant supply of seawater. Currently MOI has seawater storage tanks and reticulations in place but no seawater intake and discharge system. The sea water pumping system appears to be the key driver for the project and will also be used to feed the laboratories on site, including the bio-tech laboratory. It is planned to promote experimental aquaculture and to rent research space to investors as a possible mechanism to cross subsidies coral restoration work. Biotech is high on the Government agenda and is being promoted under its Blue Economy strategy.

The land-based nursery at MOI is a priority for the Government; it can create jobs and have a high impact in terms of promoting a Blue Economy. Co-financing from the MOF of 59 million MUR (approx. USD 1.4 M) was secured in September 2021, to increase the scale of the land-based nursery and equip it with a sea-water pumping system. This is being managed through a Cost Sharing Agreement between UNDP and the Ministry of Blue Economy.

The land-based nursery is behind schedule largely due to delays in obtaining approvals / feedback from the Ministry of Blue Economy and AFRC, and the original target to produce 15,000 coral fragments from the land-based nursery has been reduced to 6,000 fragments due to price escalation. A contract for the design and supervision of the works was awarded in October 2022 to Lux Consult. The feasibility report submitted in September 2023[24] presents 3 options (all use micro-fragmentation technology) with variation at grow-out stage:

- Option 1: Two sets of tanks for grow out and coral fusion under flow through principle (45.1 million MUR). This technology has been used for 10 years and therefore is not considered to be cutting edge.
- Option 2: Fully automated. Tanks running under a recirculation basis with semi-open system (56.8 million MUR). This is the preferred option of the consultants as it would showcase state of the art technology to the region and would involve less maintenance, which is an important consideration given the capacity issues at MOI. The cost includes training and handover.
- Option 3: Hybrid of options 1 and 2 (50.2 million MUR). This is the Government's preferred option. Opex is higher due to the electricity cost associated with the pumping system.

[24] Lux Consult, September 2023. Feasibility report for setting up of land-based coral nurseries at the Mauritius Oceanography Institute

It is recommended, given the size of the investment and to align with standard practice, that a more comprehensive financial analysis is presented to decision makers, which combines OPEX and CAPEX expenditure discounted over the lifetime of the investment, so that a more accurate financial picture of the 3 options is evident. OPEX is currently presented as % of CAPEX (as an annual static estimate). It is noted that a social cost benefit analysis goes beyond a financial analysis. To this end the analysis should also make clear the assumptions and omissions related to the analysis, and key non-quantitative / monetarized social and environmental factors and risks that support the 3 options presented. However, it is understood that the MOI will in any event opt for Option 3, as they want to build on infrastructure they already have and adopt a system of which they have some knowledge and understanding.

Table 5 presents the latest available workplan.

Table 5: Summary workplan for land-based nurseries Mauritius

Step	MOI – timeline	AFRC - timeline	Comments
Detail design & feasibility	Nov 2022-Nov 2023 **Awaiting approval of feasibility report**	Dec 2020- *Jan 2024* Scope of works revised 2023	Clarification on the EIAs is urgently needed. MOI sea water pump may need full EIA as now 8 years old. Noted that MOI's view is that since there is no change in geography of area a revised EIA for marine part is not needed and they plan to ask for waiver for the land-based components as it will be on existing plot is next to MOI. Lux consult (2023) note that an ecological survey is needed on flora and fauna that could be impacted by the suction pipeline
Conceptual designs[25]	Nov 2021-Dec 2023	*Feb 2024 – March 2024*	Once full design is submitted comments from stakeholders will be requested. Comments and approval process needs to be streamlined / tightly managed, and deadlines adhered to
Detailed engineering stage	Jan 2024- Mar 2024	March 2024 – May 2024	*As above*
Bid documentation & procurement	Sept 2024 – May 2025	May 2024 - Nov 2024	Preparation of Tender document (can be undertaken in parallel with Step 3) Procurement process to contract construction company (3-4 months). This will be managed by UNDP and given the value of the project is expected to be a complex process.
Overall Project management & works supervision	Sept 2024 – May 2025	Nov 2024 – July 2025	
Completion of works & taking over	May 2025-May 2026	July 2025 – July 2026	Construction period estimated to take 1 year

Source: Lux consult and mid-term reviewers' comments

AFRC Land based Nursery

[25] A meeting has been held (chaired by the Minister of Blue Economy) and UNDP leadership for the finalisation of the conceptual designs on 30 January 2024

Indicator 16 - Number of infrastructures for nursery seeding from sexual reproduction (Mauritius) established is taken to relate to the land-based nursery at AFRC. This was meant to be established by mid-term and is delayed.

A smaller experimental coral nursery facility with a focus on sexual coral reproduction is to be built at AFRC. The objective of this experimental nursery is to identify the optimal conditions for obtaining coral recruits on a large scale, for future restoration works nationally. The site already has a seawater pumping facility. A 24-hour operating system is needed; thus a fully automated system is preferable given staff are currently only on-site 9am to 4pm. In any event, commitment from the staff at the AFRC will be critical to the operation of the facility. The consultants proposed 2 options at 29.9 million MUR and 31.3 million MUR and are now working on significantly reducing the scope to be within the intended budget of 4 million MUR. This is to be achieved by reducing coral nursery capacity, implementing only one spawning and one settlement tank and using space available within the existing aquaculture facility. The misunderstanding over the brief (available budget) reflects a lack of communication and engagement between the consultants and AFRC. Reportedly AFRC has been slow to provide feedback on the feasibility report which may be due to staff changes and the time needed by new staff to fully understand the project.

Sea Based nurseries

The project document envisaged small-scale **ocean-based nurseries** including table nursery bottom attached model (for culture of up to 100 corals per nursery) and multi-layered rope nursery (for culture of up to 1,000 corals per nursery) to be built through community- based coral farming at each MPA site and potentially additional sites by adjacent hotels. The target was that at least 30% of the local people involved would be women. The ocean nurseries were to be filled with nubbins from asexual propagation and eventually to include nubbins obtained from sexual propagation in the land-based nursery.

The nursery sites were meant to be selected following surveys by the MOI, but because of delays in equipment acquisition, the site selection was based on local knowledge, a preliminary visual survey by MOI, AFRC and APs/NGOs, and the experience of the activity partners and CTA. The results of the preliminary survey were presented at the MOI where all APs, the UNDP PMT, the CTA were present, and where decision for site selection for nurseries was eventually taken. Eco-Sud tried to reduce risk by putting the nurseries in areas with limited interference and chose site with highest water flux. In Rodrigues, the sea nurseries are located in three different conservation zones distributed across SEMPA, where extractive activities are not normally allowed. Growth of coral has been slow with a certain amount of death, so this may not have been the best site.

The project was designed to test the community-based nursery methods previously developed by MOI / AFRC suitable for lagoons. However, the NGOs noted that the top-down approach adopted in terms of the nurseries - tables and ropes were recommended by Ministry of Blue Economy along with the budget and materials to used, was too restrictive and some APs are trialing modifications of these methods.

The mid-term target for **indicator 17** is that in Mauritius 1 new ocean-based nursery would be established and operational with 100 basal tables (approx. 20k fragments), 100 multi-layered ropes nursery units (approx. 100k fragments). At mid-term, 5 sites have been identified for ocean nurseries within Blue Bay Marine Park and Grand Port Fishing Reserve (GPFR). For Eco-Sud – 200 (out of 250 table nurseries) deployed and 75 (out of 100) rope nurseries, have been deployed. For Reef Conservation - 78 (out of 150) table nurseries and 48 (out of 100) rope nurseries deployed in GPFR. This totals 278 tables and 123 rope nursery units, exceeding the

end of project target. Of note, additional funding was made available to the APs/NGOs through the Mainstreaming Biodiversity project.

For Indicator 18, there are 68 community members involved in the maintenance and monitoring of new ocean-based nurseries in Mauritius, exceeding the mid-term target of 20.

Indicator 19. In **Rodrigues** the target at mid-term was to have 1 ocean-based nursery established and operational with 40 multilayered ropes nursery unit. Six potential sites for ocean-based nurseries have been identified in SEMPA and deployment commenced in November 2022. At mid-term there were 80 tables nurseries and 11 rope nurseries out of 44 deployed at 3 sites.

Indicator 20. At midterm, 11 community members were to be involved in the maintenance and monitoring of sea-based nurseries in Rodrigues, this target has been exceeded with 43 beneficiaries involved.

Output 1.2.4 Stock of farmed corals available for transplantation

1.2.4.1 collection of coral fragments cultures in land-based nurseries and ocean-based nurseries in Mauritius and Rodrigues

As designed, the project envisaged different species of corals being farmed, with the number dependent on sites and nursery method. In Mauritius, the target is 20,000 from the table nurseries, and 100,000 from the multi-layered rope nursery units. In Rodrigues, the target is 10,000 nursery-reared corals in table nurseries and 40,000 from the multi-layered rope nursery units. The target is 140,000 farmed coral (75% survival rate) by the end of the project.

In terms of timeline, the nurseries were to be set up during the first year of the project and with a 6-month acclimatization period, the farmed corals were expected to reach the appropriate size for transplantation by the end of the third year (i.e. at mid-term). Planting did not start until May 2023, due to delays in Ministry of Blue Economy approving the Coral Restoration Plan and interference permits required for nurseries in the Fisheries Reserve[26]. Following approvals, as requested by the Ministry, NGOs did not plant in the summer when stress levels are expected to be higher. However, planting / weather conditions in the Winter of 2023 have not been good. Despite this, good progress has been made.

Indicator 21: At mid-term the target was to have 7,000 coral fragments (including resilient species and locally threatened coral species) in **land-based nursery** (Mauritius). This target has not been met and is contingent on the completion of the land-based nurseries (indicators 15 and 16).

Indicator 22:. Percentage of coral polyps successfully settled in situ. No coral fragment under culture yet. Achieving EOP may be challenging.

Indicator 23: Number of coral fragments under culture in new **sea-based nurseries** in Mauritius. No mid-term target was set, but the end of project target is 120,000 fragments. To date the total is Eco-Sud – 10,250 fragments and Reef Conservation – 9,567 fragments in total (4,302 in 48 table nurseries and 5,265 in 13 rope nurseries). This is far below the end of project target which will be challenging to meet.

[26] Eco Sud applied to Ministry of Blue Economy in August 2022 and received interference permit in October 2022

Indicator 24: Number of coral fragments under culture in **sea-based nurseries** in Rodrigues. No mid-term target, but the end of project target is 40,000. At mid-term, 11,413 fragments have been cultivated and the EOP target is considered to be an overestimate and needs to be revised down.

OUTCOME 1.3: THE HEALTH OF DEGRADED REEFS RESTORED, THROUGH ACTIVE RESTORATION WORK, MAINTENANCE AND MONITORING EFFORTS, LEADING ULTIMATELY TO GREATER PROTECTION OF SHORE FROM FLOODING AND STORM DAMAGE

Output 1.3.1: Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from erosion.

Based on the project document, farmed corals were to be cemented at sites targeted for restoration within the **Blue Bay Marine Park** (Mauritius) and **SEMPA** (Rodrigues) by the NGOs and the communities. The density of restoration (number of corals per square meters) depends on the size of corals at transplant time and the status of the degraded reef. However, it was estimated that approximately 4 nursery grown corals would be transplanted per square meter. As such it is estimated that approximately 2.5 Ha of coral reef will be restored in Mauritius and approximately 0.7 Ha in Rodrigues. The approximate beach area that is potentially protected. As specified in the project document, is 1.5 ha and 1 ha respectively.

As per **indicator 25**, At mid-term it was expected that 1.2 Ha in Mauritius and 0.3 Ha in Rodrigues would be successfully restored using farmed corals of resilient species. Restoration work is yet to start. The first deliverable related to this is a report on transplantation due February 15th 2024.

Activities:

1.3.1.1 Transplantation of farmed corals at restoration sites in Mauritius and Rodrigues.

1.3.1.2 Part of the spatio-temporal study of the coast and restoration site in Mauritius and Rodrigues.

Output 1.3.2 Recovery of fish population and other reef associated fauna and flora, leading ultimately to improved food security in Mauritius and Rodrigues. Under this output, the intention is that standardized long-term monitoring programs will record the effects of the coral reef restoration effort, mainly coral survival, growth rates and abundance and diversity of reef-associated species. It is expected that the restored sites located in MPAs will have an increase in fish biomass and fish species because of the coral reef restoration actions. It is foreseen that these reef fish increases will eventually spill over from the MPAs and become available to fishers. Nearby control sites were to be selected to scientifically quantify the results of the coral reef restoration efforts.

Indicator 26 relates to the percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment, fish biomass, fish diversity and fish catch amongst others). There is no target set at midterm and monitoring is yet to start at the restoration sites in Mauritius, although as discussed, monitoring presents numerous challenges.

Activities:

1.3.2.1 Monitoring and maintenance of the restoration sites

1.3.2.2 Monitoring of the restoration site for water quality, live coral cover, fish and other fauna and flora density

Activity 1.3.2.3 Updating the inventory of the corals in Mauritius and updating the booklet describing the corals of Mauritius and Rodrigues.

This activity it not linked to the PRF but has faced capacity and budget constraints. The lead author of the first version of the coral identification guide / booklet in Mauritius has retired, and several other key staff members from AFRC and MOI who were initially working on the project have also either retired, been transferred, or resigned. Coral taxonomy is a highly specialized field and there is no longer anyone at the MOI or AFRC with the technical knowledge to deliver on this activity. Furthermore, the inventory of corals and production of the booklet were to be an in-kind contribution from Government of Mauritius. The project did not include an allocation for field work for sampling corals, only USD 20,000 was allocated for publication of the Coral Inventory Booklet.

In **Rodrigues** a coral inventory booklet is to be produced for all of Rodrigues, which has 130 species of corals. This can build on a published inventory in 2003 completed by a pool of international experts. Inventories can be extremely time consuming, and the scope of this activity needs to be agreed with Shoals Rodrigues given the workload and limited resources. The current expectation is that samples of the corals will be collected.

The CTA has submitted a *report on - Advice on approach and method to update the coral inventory for Mauritius and Rodrigues.* The report includes sampling protocols for use in the preparation of an inventory of corals in Mauritius and Rodrigues. The protocol outlines the methods to document, collect, preserve, and store voucher specimens to support formal taxonomic identification purposes to update existing descriptions and enable genetic analyses in the future should resources become available. Other activities required to complete the booklet include: (i) identification of sites and species; (ii) field sampling; (iii) identification of some species in laboratory through electro-microscope; (iv) review of the booklet by a coral taxonomist; and, (v) description and design of the Booklet for on-line publication.

The PNCC Mauritius (5 September 2023) proposed an online publication to save on publication costs which could then be relocated together with additional re-allocations under component 1 to recruit a local consultant to produce the document and a coral taxonomist to review it. The NGOs in Mauritius and Rodrigues could be included in the sampling under the guidance of the national consultant against payment as appropriate.

3.2.1.3 COMPONENT 2: ENHANCEMENT OF FOOD SECURITY AND REDUCTION OF RISKS FROM NATURAL DISASTERS THROUGH THE RESTORATION OF DEGRADED REEFS IN SEYCHELLES[27]

The MTR rates Component 2 as Satisfactory. Of the mid-term targets, 7 have been achieved, 6 are on track and 3 are not on track (Table 6). Thus, at mid-term, 43% of targets have been achieved and 18% are considered off track.

[27] PPR1 and PPR2 rated this component as Satisfactory.

Table 6: Component 2: Summary of progress towards results

Indicator Assessment key:	Achieved	On target to be achieved	Not on target to be achieved

Output/ Indicator	Midterm Level & Assessment	Achievement Rating[1]
Outcome 2.1 Improved livelihood for a sustainable partnership to coral reef restoration		S
27/ Number of people trained in establishment and maintenance of coral nurseries (data disaggregated by community groups, gender and age group), with a particular attention given to increasing female and youth participants/trainees		HS
28/ Number of sustainable financing mechanisms for the maintenance and monitoring of coral restoration activities with recommendations		MS
29/ Number of stakeholders with improved livelihoods due to new employment & business opportunities, with particular attention given to increasing beneficiaries from female-headed households.		MU
Outcome 2.2 Coral farming and nursery facilities established at a sufficient scale for more climate change resilient corals		S
30/ Number of coral species for propagation based on resilience and genetic diversity identified		S
31/ Number of donor sites with resilient and resistant coral species identified		HS
32/ Percentage of climate resilient coral collected from donor sites for propagation in nurseries		S
33/ Surveys for identification of nursery sites including parameters suitable for maximized coral growth		S
34/ Number of Environmental and Social Risk Assessment Reports		MU
35/ Number of **land-based** nursery established and operational		MS
36/ Number of **ocean-based** nurseries established and operational		S
37/ Number of people involved in the maintenance and monitoring of new land and ocean-based nurseries		HS
38/ Number of coral fragments under culture in land-based nursery		MS
39/ Number of coral fragments under culture in new ocean nurseries		S
OUTCOME 2.3 The health of degraded reefs restored, through active restoration work, maintenance and monitoring efforts, leading ultimately to greater protection of shore from flooding and storm damage		S
40/ Area of site successfully restored with nursery grown corals		HS
41/ Number of people involved in cementing corals to the degraded reefs and monitoring restoration effects		MS
42/ Percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment, fish biomass, fish diversity and fish catch amongst others)		MU

Note: 1/ Achievement rating: HS – Highly Satisfactory; S – Satisfactory, MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory

Table 7 provides an overview of the 3 APs in Seychelles.

Table 7: Overview of APs' progress on Coral Restoration

MCSS – Saint Anne Marine Park	SPGA – Curieuse Marine National Park	Nature Seychelles – Cousin Island Special Reserve
• 10 donor sites in total: 3 at Perseverance; 1 at Ile du Port; 1 at Providence; 1 at Ile Seche; 4 in the SAMNP. • Nurseries – 8 Floating rope nurseries in total operational at 2 nursery sites within Ste Anne Marine National Park. 3 emptied in November 2023. • Outplanting on track. • Have met mid-term targets and could meet EOP but this is a challenge given small number of staff.	• 5 donor sites (Baie Laraie, La Reserve, Ste Pierre,Grande-Anse, Anse- Papaie). • Donor sites – most of coral taken out are doing well. Outplanting is undertaken after 2-4 months, or when the coral has reached an acceptable size. • 8 nurseries constructed (including 1 newly constructed nursery at the back of the island). 5 in operation as 3 emptied already. Targeting 11 or 12 depending on manpower and equipment. Restored old nursery under Ecosystem Adaptation Project, which collapsed. • 4,791 cumulative coral fragments, representing 38% of its mid-term target of 12,500 corals, but mid-term target for outplanting met. However, it is not clear what can be achieved in next 3 years and if the end of project targets can be met for corals under culture and outplanting. • Sinkers – using granite rock which is readily available at base of nursery.	• 2 active donor sites. 3rd donor site selected further away to reduce pressure and increase species and genetic diversity. • 80% from corals of opportunity • 6 nurseries (2: 20x6m; 4: 10x6m) with 14,343. • 24,182 cumulative coral fragments belonging to 6 genera (*Acropora* spp., *Pocillopora* spp., *Stylophora* spp., *Pavona cactus*, *Stylophora pistillata*, *Psammocora* spp.). • Outplanting – 4 sites. Different outplanting patterns with densities of 5.02 col/m^2 OS, 2.89 col/m^2 ATH, 59.25 col/m2 CF, 0.75 col/m^2 FO. Currently, **0**.45 ha with 8,442 corals from 7 genera have been outplanted. • All mid-term targets virtually met and confident EOP targets can be met (although stolen engine January 2024 will cause delays).

Key Challenges faced by APs Seychelles are:

Workforce is a challenge for all APs to some degree. MCSS used to have 4 permanent staff engaged in the coral restoration work but now have 2 (plus 1 intern from Swansea University for 9 months who will leave in June 2024). A team of 3 is considered the bare minimum; it does not allow for unforeseen absences and requires the team to focus on core activities only if they are to meet the targets. MCSS's full-time skipper left in April 2023 and it was difficult to find a replacement. A freelance skipper was used on a part-time basis between May and September 2023, after which a full time skipper was employed. **SPGA** originally had a team of 3, but 1 staff member left in October 2023. Efforts are underway to find a full-time replacement, but it is difficult to find someone with dive experience who is prepared to stay long term on Curieuse island. While 3 staff members were assigned in the project document, a view was expressed that this is not enough to meet the targets. Given the high staff turnover there is a need to be innovative. SPGA plans to transfer rangers from other teams if they are interested in the work. It may also be possible to get support from hotels / dive centers to support planting (e.g. hotels fund interns or tourists who are experienced divers could pay for a coral planting experience following basic training). There is some precedence in this respect to build on; SPGA successfully hosted a mass coral outplanting event in January 2024 in collaboration with two local dive centers. Approximately

600 corals from the ocean nurseries were outplanted within a two-day period. The intention is to make the a recurring event. To address capacity constraints, **Nature Seychelles** relies on international volunteers who are trained and join the coral restoration team for 3 months. This learning by doing approach is open to Seychellois, but it is understood the volunteers are largely international. The approach requires a lot of training and therefore a longer timeframe for volunteers would both lessen the training burden and increase the efficiency of the volunteers who typically become proficient around the time their volunteering period is coming to an end. Nature Seychelles were working with the Ministry of Employment and Immigration to try and extend the Gainful Occupational Permit (GOP) required from 3 to 6 months. However, through collaboration with government authorities, Nature Seychelles have been able to secure an extension of 3 months for volunteers to a total of 6 months without a GOP. The inability to increase salaries for long-term project staff or to increase number of project staff was also raised as an issue.

Challenging working conditions for all APs. All sites are exposed to strong currents and waves and all APs are strategically locating their nurseries to try and ensure it is always possible to work somewhere. For **SPGA** only one dive a day is possible during the SE monsoon. They have set up a nursery behind Curieuse island to enable work across the seasons. Furthermore, outplanting using the metal rebar method is time-consuming and divers are exhausted after hammering several metal rebar into the substrate. Divers have to swim back and forth from the coral nursery to outplanting sites to transplant the coral which is a challenge, especially when swimming against the current. For **Nature Seychelles** planting work is intense because of sea conditions and the SE monsoon June -September reduced access to sites affecting outplanting. They are selecting another outplanting site to allow planting year-round. For **MCSS** it is not easy to access donor sites at certain times of year due to weather conditions. Health and safety issues were also raised by APs including the need to access the water via rocks as there is no jetty (MCSS), the risk of injury when diving 2-3 times a day 5 days a week and the lack of insurance and health care for some staff.

Stolen and damaged equipment. MCSS has faced boat breakdowns, which caused the boat to be out of the water for 1.5 weeks in April 2023, a stolen anchor and several stolen buoys. **Nature Seychelles**' boat engine (60hp) broke due to a factory defect, and they had to use a smaller engine boat (40hp) for over 2 months in 2023, which could not accommodate the full team on board limiting the in-water activities. Most significantly, Nature Seychelles has had 2 boat engines stolen, one in 2021 and the second recently in January 2024, rendering the team office bound until they have a replacement and with budget implications as the ability to recoup losses through insurance is not considered to be high[28]. A timely solution is needed; a budget reallocation has been proposed by Nature Seychelles to enable the swift purchase of an engine to enable in-water work to commence as soon as possible.

Threats to coral restoration work. (i) Boat and anchor damage is an issue at nearly all sites. Saint Anne had two coral nurseries of around 800 corals destroyed by a boat in early 2023, nurseries in Curieuse have also suffered damage. For Nature Seychelles, this is an issue at donor Site 2, but not in other project sites[29]; (ii) Plans to dredge very near to SAMNP for the extension of port Victoria, situation near SAMNP. However, it is noted that this work may only start after the completion of the project; (iii) fishing pressure; (iv) Algae is a big problem – reducing

[28] Reportedly theft of outboard engines is common on Praslin with no resolution from the Police.

[29] Other sites are protected areas; Donor Site 3 was the main boat jetty on Praslin, and now is a military base, so no anchor was/is happening.

the survival of coral in the nurseries and outplanted; and, (iv) coral bleaching at all sites (donor sites, nurseries and outplanting sites).

Outcome 2.1: Improved livelihood for a sustainable partnership and community-based approach to reef restoration

Output 2.1.1. Coastal communities benefit from improved livelihoods through employment establishing and maintaining coral nurseries and transplantation sites

As with output 1.1.1, based on the activities and indicator for this output, this output is focused on training and awareness raising and should have been more specifically titled to reflect the training aspect and distinguish it from output 2.1.2. It is also noted that outputs for Seychelles mirror those for Mauritius but could have been adjusted to align with the different approach being taken. In the Seychelles, the APs are not training local people and taking a more experimental science-based approach. As noted in the project document, in Seychelles the focus was to be more on NGOs and the tourism industry rather than local communities.

Indicator 27. The mid-term target is that 30 people are trained in establishment and maintenance of coral nurseries; the total to date is 81 people hence the mid-term and end of project targets have been achieved (Table 8). Of note most of Nature Seychelles beneficiaries and the majority of MCSS beneficiaries are international, which raises concerns about the ability of the project to build local capacity; this is tied to the broader issue of the difficulties attracting and retaining local people in coral restoration work, discussed further below.

Table 8: Summary of Training by APs in Seychelles

Nature Seychelles	Reef and coral ecology, restoration techniques, diving techniques and diving techniques for restoration activities, monitoring, coral, invertebrates and fish ID	21 volunteers	81% female
	Ecology of corals, restoration techniques	17 hotel staff	6% female
MCSS	Reef and coral ecology, restoration techniques	9 community members	67% female
		12 international volunteers	67% female
		11 staff	55% female
SPGA	GPS training, restoration techniques, Emergency First Response	10 staff	40% female
		1 volunteer	100% female

Activities:

2.1.1.1 Training of community members in establishing and maintaining coral nurseries
2.1.1.2 Awareness campaign in Seychelles on coral restoration
2.1.1.3 Scuba training of volunteer students.

Output 2.1.2. Coastal communities benefit from improved livelihoods through increased revenue from alternative work including tourism (glass bottom boat tours, snorkeling and diving trips).

2.1.2.1 Development of a Business Plan and update of MPA strategic plan.

In Seychelles, the focus is on large-scale coral reef restoration. This was to be achieved in two steps: updating the strategic plan for the management of MPAs and the development of a business plan. SPGA completed their MPA Strategic Plan (2022-2026) prior to the commencement of the project. The Plan's mandate includes promoting the participation of

Government, the public and business in conservation work. However, from this high-level Strategic Plan, it is not clear to what extent local communities and local businesses will benefit specifically from the coral restoration works or the potential sources of funding for labor, maintenance, monitoring programmes and equipment purchase. However, SPGA has reportedly trailed a kayak rental business on Curieuse with a private operator.

Indicator 28: Number of sustainable financing mechanisms for the maintenance and monitoring of coral restoration activities with recommendations, is to be met through the development of a Business Plan by Nature Seychelles and at least 1 MOU by mid-term. The mid-term target has only been partially met. Nature Seychelles has signed an MoU with Raffles Hotel Praslin. This aims to build an artificial reef along the shore of the Raffles hotel and train their staff members to execute restoration activities in exchange for a CSR donation of USD 6,000. For the Business Plan a draft Table of Contents is available. The business plan is intended to lead to new employment and business opportunities - for example guided snorkeling or diving around Cousin Island. It will also seek to identify opportunities with the Department of Blue Economy – bio tech, sponge farms, pharmaceuticals, and innovative ways to generate finance for coral restoration[30].

For Indicator 29, by mid-term at least 30 stakeholders were to have improved livelihoods due to new employment and business opportunities. The project has been reporting data on training, for livelihoods improvements. It is not clear how feasible it will be to measure this indicator in Seychelles within the project timeframe.

Outcome 2.2: Coral farming and nursery facilities established at a sufficient scale for more climate change resilient corals

Output 2.2.1. Donor coral colonies of appropriate species (resilience, maintaining genetic diversity) available at sufficient scale (quantity, time, intervals etc.) for propagation in nurseries.

Coral reef restoration and nurseries are being implemented within the MPAs Curieuse Marine National Park. Cousin Island Special Reserve, and Ste Anne Marine National Park, and one non-MPA site - Anse Forban. The nursery sites were to be selected based on the reports on coral reef status, water quality and key environmental and social parameters, while donor sites were to be based on surveys to identify coral donor sites for locally threatened species. However, delays in these activities meant that donor and nursery sites were based on the experience and judgement of the APs.

2.2.1.1 Technical assessment and selection of resilient coral species.

Indicator 30. The mid-term target that 1 coral species for propagation based on resilience and genetic diversity is identified and validated by the PSC/RSAC is 50% achieved. To date, 6-7 genera[31] have been propagated, but these are yet to be validated as resilient or genetically

[30] According to the project document the Business Plan will focusing on making long-term, large- scale coral reef restoration financially viable, with several strategies that generate income to be invested again in the coral reef restoration effort. Options cited include: (i) Mass-Production and sell of farmed fast-growing corals for reef restoration and for the aquarium trade (CITES compliant) Leverage other opportunities in mariculture, notably low trophic level species, with facilities and capacity available; (ii) Attract other marine research & development projects, partners, researchers and students (with facilities and capacity available) to establish platform and knowledge hubs; (iii) Provide training and boot camp learning programs for national and international trainees in coral mariculture and coral reef restoration; (iv) Explore science and technology opportunities for uses of farmed corals; (v) Partner with hotel resorts and other private sector businesses for coral reef restoration using CSR funds

[31] *Acropora*, *Pocillopora*, *Porites*, *Stylophora*, *Galaxea* and *Pavona.*

diverse by the Regional Scientific Advisory Committee. However, a reasonably high level of confidence was expressed by some APs that they have sourced climate resilient corals[32].

2.2.1.2 Identification of donor sites

For Indicator 31, the mid-term target is that 3 donor sites with resilient and resistant coral species identified (1 by each AP). Both the mid-term target and end of project targets (5 donor sites) have been achieved. **Nature Seychelles** have two active donor sites on Cousin Island and one on Praslin.

MCSS have identified 10 donor sites, based on resilience of coral colonies at these sites. **SPGA** has identified 5 donor sites (Baie Laraie, La Reserve, Ste Pierre, New Emerald Cove and Baie Ste Anne Jetty).

Indicator 32. Percentage of climate resilient coral collected from donor sites for propagation in nurseries. The guideline of no more than 10% of each donor colony fragmented has been followed. It is not known if the coral collected is climate resilient.

2.2.1.3 Survey for identification of sea based nurseries

Output 2.2.2. Reports on coral reef status, water quality, and other key environmental and social parameters for potential [sea based] nursery sites.

Indicator 33. Surveys for identification of nursery sites including parameters suitable for maximized coral growth (links to activity 2.2.1.3). The mid-term target that 3 Nursery sites of different sizes are operational has been achieved: Nature Seychelles (Cousin): 1 nursery site; MCSS (Sainte-Anne MP): 1 nursery site; SPGA (Curieuse): 1 nursery site.

2.2.2.1 Monitoring of sea water quality and other key environmental parameters at donor and nursery sites.

2.2.2.2 Carrying out the Environmental and Social Impact Monitoring

For indicator 34 the mid-term target of three Environmental and Social Risk Assessment Reports *has not been achieved.* No such reports have been made available by APs to validate and this situation is unlikely to change until the revised MOU is signed. Some APs noted that they are not aware of these reports.

Output 2.2.3. A land-based nursery established, and 2 or more ocean nurseries are established and maintained on a regular basis.

Activity 2.2.3.1 Setting up of a land-based nursery on Praslin

The land-based nursery will be used for coral propagation efforts which encompass a range of growth forms, including massive, sub-massive, and encrusting varieties. Micro fragmentation stands as a key asexual propagation method within this endeavour. As for sexual reproduction, the strategy involves both *in situ* gamete collection and *ex situ* coral spawning, Aquaculture for coral restoration is new in region at this scale and will be a big step forward and an important output of the project. Sexual reproduction using micro fragments is expected to be 30-50 times faster.

[32] Of note, Nature Seychelles is collaborating with several academic institutions to use the CBASS to identify resilient corals. Additionally, genetic testing could be linked through James Cook University.

While the land-based nursery at Praslin[33] was expected to be completed by mid-term, there have been delays due COVID-19, and time taken to obtain land use planning approvals and an aquaculture license from the Seychelles Fishing Authority. The contractors were due to start in November 2023 and the nursery is expected to be completed and commissioned by Q2 2024. A SeyCCAT grant of 1.7 million Sey Rupees is being used to upgrade the land-based nursery. Nature Seychelles are also exploring co-funding for solar power from CMA GGM a shipping company. There are few tourist attractions along the south coast of Praslin, and the land-based nursery could be marketed to attract tourists.

2.2.3.2 Setting up, populating and maintenance of ocean nurseries (midwater rope type); 10 in Cousin Island; 20 in Curieuse Island and 8 in Ste Anne Island.

To date 22 ocean-based nurseries have been set up exceeding the mid-term target of 14 (Indicator 36). Nature Seychelles has established 6 ocean-based nurseries, MCSS has 8 ocean-nurseries operational at 2 nursery sites within Ste Anne Marine National Park and SPGA currently has 8 rope nurseries at 2 nursey sites (one more than the original plan because they believe that it will help meet the end outplanting target).

Against indicator 37, the mid-term target of 37 people and the end of project target of 59 people involved in the maintenance and monitoring of new land and ocean-based nurseries has been achieved with a total of 85 people engaged. Of note, this information relates only to the sea-based nurseries as land-based nursery is yet to be established.

Output 2.2.4. Stock of farmed corals available for transplantation

2.2.4.1 Collection of coral fragments cultures in land-based nursery in Praslin and ocean-based nurseries in Ste Anne, Cousin and Curieuse Islands

At mid-term the target was to have at least 500 corals growing in the **land-based nursery** derived from sexual and/or sexual reproduction (Indicator 38), however construction of the land-based nursey has been delayed and it is expected to be completed in Q2 2024. While the mid-term target has not been met, the end of project target of 1,000 coral fragments is considered to be more than achievable, once the land-based nursery is operational.

For Indicator 39, at least 43,500 coal fragments were targeted to be under culture in new ocean nurseries at mid-term (at least 25,000 corals at Cousin, 12,500 at Curieuse and 6,000 Ste Anne). At mid-term there are 42,685 coral fragments under culture, 98% of the mid-term target. Nature Seychelles reached 24,182 cumulative fragments belonging to 6 genera (*Acropora* spp., *Pocillopora* spp., *Stylophora* spp., *Pavona cactus*, *Stylophora pistillata*, *Psammocora* spp.). MCSS reached a cumulative total of 13,712 fragments in ocean-based nurseries as at end Q4 2023 (8,857 outplanted plus 4,855 in nurseries), exceeding their target of 6,000. As of Q4 2023 SPGA had 4,791 cumulative coral fragments, representing 38% of its mid-term target of 12,500 corals. It is not clear what can be achieved in next 3 years and if their end of project target can be met.

Outcome 2.3 The health of degraded reefs restored, through active restoration work, maintenance and monitoring efforts, leading ultimately to greater protection of shore from flooding and storm damage

[33] Nature Seychelles have a Centre for Ocean Restoration, Awareness and Learning (CORAL) building on Praslin Island; the land-based nursery will be built on a plot of land adjacent to the CORAL building.

Output 2.3.1. Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from erosion.

The Project Document estimated that approximately 1 ha would be restored at Cousin Island, 1 ha in Curieuse Island (including St Pierre), 0.25 Ha at Ste Anne and 0.25 Ha at Anse Forbans, which totals to 2.5 ha for Seychelles. It was estimated that around 200m of beach at Curieuse Island, 500m of Cousin Island, 200m at Ste Anne Island and 600m at Anse Forbans would be potentially protected due to the restoration works.

2.3.1.1 Transplantation of farmed corals at restoration sites in Curieuse Island, Cousin Island, Ste Anne Island and Anse Forbans

Against indicator 40, the mid-term targets for the area successfully restored with nursery grown corals 0.95ha, broken down by AP as follows: Nature Seychelle's (Cousin Island Special Reserve): 0.50ha; MCSS (SAMNP): 0.25ha; and SPGA (Curieuse Marine Park): 0.20ha. The total area restored at mid-term is 0.96ha, hence the mid-term target has been achieved. Nature Seychelles 0.45 ha; MCSS 0.23ha (with target achieved at end of Q4 2023); and SPGA 0.28 ha at mid-term[34].

For Indicator 41, the mid-term target is that 37 people are involved in cementing corals to the degraded reefs and monitoring restoration effects. As of Q3 2022, 28 people were reported with experience in cementing corals or 75.6 % of the mid-term target. However, how this data relates to the indicator is not clear as the APs are using different outplanting techniques, as well as cementing and it is assumed that the data reported by some APs relates to workforce engaged in all different transplanting approaches (not just cementing).

Output 2.3.2. Recovery of fish population and other reef associated fauna and flora, leading ultimately to improved food security in Seychelles. All APs are monitoring, using slightly different methods. Some monitoring programmes are more comprehensive than others e.g., not all APs monitor donor sites, growth on nurseries, fish. There is limited reporting of the monitoring results via Annual Reports. The majority are using large area imaging to document at least the outplant areas, and some are also monitoring control sites and donor sites using these same techniques.

For **indicator 42** the mid-term target is a 5% increase in coral cover at all sites. This has not been achieved. The EOP targets are challenging and reflect at least 10% increase in coral cover, fish density, and fish diversity at all sites. It is not clear that it will be possible to see an increase in fish populations within the project timeframe, as discussed above under the indicator review in section 3.1.1. A monitoring template, using international best practices, was developed by CTA, but many APs are finding it difficult to find time and capacity to undertake the monitoring work (discussed further in section 3.3.4 below). It is not clear if baselines have been set and the how realistic it is to measure all these indicators.

[34] The main outplanting sites are at Anse Papaie, Baie Laraie and Grand Anse reef. The Anse Papaie out-planting site contains 13 plots of 10m by 10m, this covers 0.13 ha of corals outplanted (about 1300 corals). The Grand Anse outplanting site contains 15 outplanting plots of 10m by 10m, this covers 0.15 ha (about 1,500 corals). As of the Mid Term review date, 28 plots (0.28 ha) have been outplanted with 2,800 corals. The current cover is 0.3ha, following the January 2024 mass out planting event.

2.3.2.1 Monitoring and maintenance of the restoration sites
2.3.2.2 Monitoring of the restoration site for water quality, live coral cover, fish and other fauna and flora density.

3.2.1.4 COMPONENT 3 KNOWLEDGE MANAGEMENT AND SHARING, TRAINING AND SENSITIZATION TO BUILD REGIONAL CAPACITY FOR SUSTAINABLE REEF RESTORATION

The MTR rates Component 3 as **Moderately Satisfactory**[35]. Of the mid-term targets, 2 are achieved, 7 are on track, and one is not applicable at mid-term (no mid-term target set) (Table 9). Thus, at mid-term only 29% of the mid-term targets are achieved, but the project should be able to achieve all end of project targets with good technical guidance, planning and management.

Table 9: Component 3: Summary of progress towards results

Indicator Assessment key:	Achieved	On target to be achieved	Not on target to be achieved

Output/ Indicator	Midterm Level & Assessment	Achievement Rating[1]
Outcome 3.1 Improved understanding and knowledge management of use of reef restoration as an adaptation measure		MS
43/ Comprehensive review of coral reef restoration in the region and globally undertaken		S
44/ Methodologies for coral restoration in Mauritius and Seychelles developed, based on best available science and practices		S
45/ Research and surveys on key information for reef restoration undertaken		MS
Outcome 3.2 Improved understanding within the WIO and globally of successful approaches to reef restoration, the constraints and challenges, with lessons learned incorporated into new initiatives		MS
46/ Knowledge sharing platform on reef restoration for sharing lessons learned developed		MS
47/ Reef Restoration Manual developed		MS
Outcome 3.3 Regional capacity developed for sustainable and climate resilient coral restoration		MS
48/ Number of members [of WIO region] or from Mauritius and Seychelles trained in coral reef restoration methods, with particular attention given to increasing female participants/beneficiaries from the capacity building activities		MS
49/ Number of members from Mauritius and Seychelles trained in advanced coral genetics including clade analysis, with particular attention given to increasing female participants/beneficiaries from the capacity building activities		MS
50/ Regional Coral Restoration Plan including national component and long-developed and underway for restored reefs, based on international/regional protocols and best practice term monitoring programme		MS
51/ Participation in regional and scientific international forums	No mid-term target	Contingent on development of research papers
52/ Regional studies on wave pattern, beach erosion and mapping		S

Note: 1/ Achievement rating: HS – Highly Satisfactory; S – Satisfactory, MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory

Component 3 is intended to ensure that experiences built up through Components 1 (Mauritius) and 2 (Seychelles) contribute to the development of a solid base of knowledge on best practices

[35] PPR1 rating - Satisfactory. PPR2 rating - Moderately Satisfactory.

in the use of coral reef restoration as an adaptation measure *and* that the project develops and shares its knowledge products internationally with particular emphasis on other Indian Ocean states and SIDS. This requires an analysis and articulation of the relative strengths and weaknesses of different approaches and their application in different marine environments. Component 3 includes a mix of activities – scientific work to inform site based coral restoration work planned for the start of project and knowledge management and dissemination, which would be expected to be the focus of the second half of the project when results and findings start to emerge. In effect the survey and scientific work has been severely delayed (due to delays in securing equipment and capacity issues as discussed above) and there is a lack of planning and awareness and/or agreement of roles regarding activities related to knowledge management and dissemination. Component 3 is a critical component that needs to be better planned and communicated going forward. The project needs to ensure that the opportunity for knowledge sharing is not lost.

While it was stated that during the PNCC meetings an overview of all the activities under the regional components were presented, the mid-term review found a low understanding of what Component 3 entails and how different parties are expected to contribute to it. It is commonly seen as UNDP / MOI component, but it cannot be delivered without the engagement of the APs/NGOs. A complication is that the implementation of Component 3 activities was not initially included in Activity Partner's work plans in the Seychelles, which has led to friction over budget allocations. This is reportedly to be addressed in the revised MoUs between the Government of the Seychelles and the APs (which have not been shared with mid-term reviewers).

OUTCOME 3.1 IMPROVED UNDERSTANDING AND KNOWLEDGE MANAGEMENT OF USE OF REEF RESTORATION AS AN ADAPTATION MEASURE

Output 3.1.1 Comparative review and analysis of coral restoration initiatives in the region and globally, with gaps in knowledge identified

There is duplication and/or overlap in the text of the project document describing the activities under Outputs 3.1.1 and 3.1.2 and inconsistencies between the text and the PRF, and Indicator 47, which relates to the Coral Reef Restoration manual, which have caused considerable confusion as to what was originally envisaged by the team developing the project. In the project document output 3.1.2 is described as a comprehensive review of past and ongoing coral reef restoration efforts, developed and disseminated, including constraints, challenges and lessons learned, which overlaps with the description of output 3.1.1. Furthermore, the Means of Verification variously included in the PRF states "Methodologies developed and adopted for coral reef restoration activities", "Project Progress Report", and "Guideline document & survey report (currents/wave pattern, GIS/habitat mapping, physico-chemical surveys of sites, inventory of coral species, genetic identification of resilient species, water quality amongst others).

3.1.1.1 Comprehensive review of coral reef restoration in the region and globally.

For indicator 43, the mid-term target that a Draft Report/Paper on comprehensive review of coral reef restoration in the region and globally is produced has been achieved. A review of coral reef restoration initiatives was to be undertaken at the start of the project to identify factors determining success, constraints and obstacles, lessons learned, and cost/benefits of different approaches. This was considered necessary given that coral restoration is a rapidly evolving area and it was therefore important to take stock of progress at the inception phase of the project.

The CTA's original contract, which started in July 2021 included a deliverable (D4.1) entitled "*Coral Reef Restoration globally and in the region, including innovative methodologies and*

guidelines on best practices, with recommendations on the best practice to be adopted for specific sites", which combined Output 3.1.1 and was intended to help inform part of Output 3.1.2. A draft document was submitted for feedback in November 2021 in advance of Mission 1. The report and recommendations were discussed during the field missions and comments from all project partners were received by March 2022, and an updated version submitted. In discussion with the RPM, it was subsequently agreed that the CTA split the original deliverable into two parts the global and regional review (Deliverable 4.1 related to 3.1.1.1) and recommendations (Deliverable 4.2 related to 3.1.2.1). Both documents were presented again during the technical meeting October 2023 and the review was circulated to Activity Partners. Both CTA 4.1 and 4.2 will eventually feed into the Coral Reef Restoration Manual (Indicator 47).

Output 3.1.2 Based on past and ongoing coral restorations efforts undertaken by the project and others, science-based best practice and methodologies (e.g. factors determining success in coral restoration are known; cost effective approaches, etc.) developed, constraints and challenges identified and lessons learned documented

3.1.2.1 Development and publishing of methodology/guidelines for coral restoration in Mauritius and Seychelles, based on past restoration efforts, best available science and practices.

For indicator 44 the mid-term target that a Draft Coral restoration methodology and good practices guide is developed has been achieved, noting the overlap with the Coral restoration Manual – which is still to be developed and a core output for the project.

Output 3.1.3 Research undertaken to provide information to guide restoration and enhance reef resilience where required (e.g. genetic connectivity of coral species, spawning seasons and coral recruitment patterns, resistant/ resilient species and clades)

Indicator 45 is not SMART, with a mid-term target that regional research and analysis on key information coral reef resilience, and genetic diversity and connectivity is ongoing. This has been rated as on-track (rather than achieved) at mid-term given the extensive delays.

3.1.3.1 Study in genetic connectivity among Mauritius, Rodrigues and Seychelles

As per the project design, the purpose for the genetic work is mainly to inform the sustainability of the coral restoration activities. Once the heat resilient species have been identified, they are to be used for propagation mainly in the land-based nurseries in Mauritius and Seychelles.

As noted in the project document - previous studies on ocean currents and seasonal currents in the Indian Ocean suggest that there is connectivity between the different islands in the SWIO region, hence what happens in one country potentially has regional implications. If some coral species are found to be genetically identical, the propagation and maintenance of common coral stocks in both countries could spread the risk during future disturbance events. On the other hand, in case the coral stocks from the different islands are unique, then these stocks should be preserved.

In October 2021 the Institut de Recherche pour le Développement (IRD) were recruited to undertake the study on genetic connectivity and heat resilient corals in Mauritius, Rodrigues and the Seychelles. The consultant team of academics is building on a pilot undertaken in New Caledonia. The IRD study is determining resilient species as per the environmental parameters. If it is determined that the species analyzed are resilient for " X " place, it can be deduced that all the coral species present at "X" place would be resilient. DNA is extracted from coral samples, and then genetic sequencing is undertaken to understand the correlation between genetic markers and the environment and compare genome in different sites to see if genetic markers

are always found. If there is a correlation between genetic markers with high temperature, these reefs will then be prioritized for conservation. Many partners expressed concerns regarding the methodology and are unclear how useful the results will be; the technique is considered limited because it is only using two species and tiny colonies.

The genetic connectively work has faced delays and is ongoing. An overview of the timeline is:

- Within the PPR2 reporting period (October 2021 - October 2022) the specialized equipment required for DNA extraction was procured.
- January / February 2022 and April / May 2022 - missions to surveys thermal resistant coral undertaken. The surveys were delayed because of COVID-19 related travel restrictions and the time taken to procure specialized equipment. Two species - *Acropora muricata* and *Pocillopora damicornis*, were sampled in Mauritius, Rodrigues and Seychelles.
- May 2022 - DNA extracted and stored at MOI. All samples from Seychelles and Rodrigues were processed at the only available facility in Mauritius. It was also considered important to process at the same location to avoid potential biases. IRD trained the MOI staff to conduct DNA extraction for coral genomic analysis.
- DNA Sequencing (*on-going*). There were delays in the launching of the RFP for DNA sequencing as prior to these extensive consultations with stakeholders were necessary to ensure that their concerns regarding adherence to Nagoya Protocol had been taken on board. A Data Sharing Agreement was prepared to increase the collaboration between Seychelles and Mauritian Government institutions, especially with respect to laboratory analysis on coral resilience and genetic connectivity (PPR1). Clearance was also needed from both Governments, the Regional Bureau of Africa (RBA) on procurement and UNDP Legal Office on IP issues to ensure adherence to Nagoya Protocol. Furthermore, MOI staff had to separate the samples and conduct quality control before sending to the laboratory for sequencing[36] and supply chain issues in obtaining the enzyme for quality control caused further delays.
- In November 2023 the samples were sent for DART sequencing at a University in Melbourne, Australia. That is, there was an 18-month delay in sending the DNA samples for sequencing.
- The regional training workshop on coral genomic analysis planned for 2022 is now scheduled for June 2024, around 2 years since the last training was undertaken.

3.1.3.2 Study in the coral spawning and recruits in Mauritius, Rodrigues and Seychelles

The CTA's contract includes the preparation of guidance on how to do such a study and a draft methodology was prepared. However, work related to this activity was not included in the RPAs of APs and given AP staffing levels and capacity constraints and existing concerns expressed with regards to monitoring and reporting, it seems unlikely that they would be willing to take on more work to conduct the spawning and recruitment study. Furthermore, this is something that AFRC have been working on with Japanese researchers (JICA). This work should be integrated into the project as it is directly relevant to the land-based nursery.

3.1.3.3 Study in the identification of bleaching resistant clades of zooxanthellae.

[36] Following the advice of the consultants, the coral extraction of coral sampling was done in a randomised manner. However, DART Sequencing has since changed their protocol and no longer accepts randomised samples and requested the segregation of samples by species. DART Sequencing also requested quality control to be conducted before sending the samples. There has been delays in the procurement of the buffer required for quality control as it is not available in Mauritius.

The project document notes that further studies would be undertaken (e.g. identification of bleaching-resistant clades of zooxanthellae) to identify suitable species and strains. This would enable information on the coral fauna of both countries to be updated and coral distributions mapped. It is not clear what progress has been made on these activities or if they are still planned.

Outcome 3.2 Improved understanding within the WIO and globally of successful approaches to reef restoration, the constraints and challenges, with lessons learned incorporated into new initiatives.

Output 3.2.1 Lessons learned in reef restoration documented and shared

3.2.1.1 Creation and maintenance of project website

Against Indicator 46, the mid-term target is that a knowledge sharing platform on reef restoration for sharing lessons learned is developed. An on-line platform to enable communication about the project and promote knowledge sharing is central to the project's objective. While the functional and technical design requirements for the Coral Restoration project website were prepared in 2021, the website has yet to be commissioned. Following two unsuccessful procurement exercises for the design and development of a project website, it was agreed by the PNCC Mauritius and Seychelles that USD 40,000 would be re-allocated to the Communication Teams of the UNDP CO to produce a webpage on the UNDP website dedicated to the project where all the reports and documents will be uploaded. Moreover, UNDP will maintain the website and assist in the production of communication materials and video production as required under the project. This is considered a more cost effective and sustainable approach given that this is a regional DIM project[37]. The UNDP communications team is in the process of preparing the landing page on the country website. This mid-term target has therefore *not* been achieved but is rated as being on track.

In the interim, project partners have shared updates on the project on their website and through social media as highlighted in the overview sheets of the PPRs – the PMT has posted 2 blogs on the UNDP Multi-country office website on the project. In Mauritius the two NGOs have produced a joint communication plan and implementation of activities have already started (PPR2). A consultant was engaged to develop the project brand manual.

3.2.1.2 Short clips and documentary film on the project implementation in Mauritius and Seychelles. Same will be used for showcasing the project nationally, regionally and globally.

There is no indicator measuring this activity and no narrative description is provided in the project document. The original budget for this activity is USD 235,629, although there have been suggestions to reallocate some of this money to other activities. The PSC need to agree on how much money they think is appropriate to spend on a documentary film and other promotional videos. It is recommended that the PMT / UNDP present some costed options to the PSC to consider. This should consider the benefits of one main film or a combination of complementary shorter films/video clips for different audiences and themes. Such a film could play a core role in enhancing the visibility of the project and be available on-line as well as being aired at international events.

[37] Project design did not account for maintenance of the website after the project has finished in 2026. For national projects implemented under NIM modality, the responsible Ministry typically takes over and maintains the website created through a project after project closure. In this instance, the CRR project is a regional DIM project, and neither country can be expected to take over responsibility for website maintenance.

3.2.1.3. Participation in relevant international symposium.

There is no indicator measuring this activity and no narrative description is provided in the project document. Nature Seychelles participated to the 12th WIOMSA symposium in 2022. A list of symposiums to be targeted by the project needs to be drawn up and costed.

Output 3.2.2 Reef Restoration tool kit and manual for use in the WIO published and disseminated

3.2.2.1 Updating and online publishing of the Coral Reef Restoration [Toolkit[38]]

Along with output 3.1.1, inconsistences in the project document have caused confusion. The text in the project document conflicts with the PRF and there are two documents referred to (one which is Seychelles specific and one which is regional).

During the USAID-funded Reef Rescuers Project, Nature Seychelles produced a Coral Reef Restoration Toolkit based on the methodology used at Cousin Island. As specified in the project document the Toolkit was to be updated with guidance for wider applicability in the WIO and published online. Of note, Nature Seychelles wish to retain the full ownership and authorship of their Coral Reef Restoration Toolkit, which they are in the process of updating. The MTR notes that it will be important to ensure that CRR resources have not financed any of work for which Nature Seychelles claims exclusive IP rights.

It remained unclear from the project document how or if the methods being tested by the other APs in Seychelles, or indeed Mauritius and Rodrigues would be represented within the toolkit. The CTA proposed that the project produces a multi-authored Coral Reef Restoration ***Manual***. All APs/NGOs are invited to produce a chapter to describe the methods that they are using and the lessons learnt during the project for inclusion in the manual. To minimize additional reporting requirements, the chapter template prepared is very similar to the template provided to the APs/ NGOs for their Annual Reports. The intention is that the APs would incrementally build up their chapters through their Annual Reports. The CTA is to support the review and editing of the chapters. Other significant manuals, such as the Nature Seychelles Toolkit being produced outside of the Project, will be referenced within the respective chapters of the manual produced under the project. A number of APs/ NGOs noted that they have *not received* additional budget to support the production of the chapters, although according to the project an allocation was made for this purpose.

The nursery methods to be used for **Mauritius** and **Rodrigues** are stated in their RPAs, however, in Seychelles, Activity Partners are testing new methods. For example, Nature Seychelles is experimenting with: (i) how rope nurseries respond to surges (at 5-6 meters vertical ropes get entangled and nursery starts to move and may collapse); lowering the nurseries to 8-12 meters may result in the nurseries being less exposed to waves and surges; (ii) brood stock; (iii) algae growth; (iv) fishing line versus ropes; and, (v) the preparation of cement the day before and freezing it rather than preparing it on board to speed up outplanting. Using this approach outplanted corals are showing 80% preliminary survival after 6 months. SPGA are experimenting with the following approaches: the use of confiscated fish traps and discarded fishing nets as nursery structures and double loop (daisy chain) cable ties. The pros and cons and efficacy of all approaches need to be documented in the Coral Restoration Manual.

[38] The term toolkit and manual is used interchangeable throughout the project document.

Against indicator 47, the mid-term target is that the updated reef restoration manual is drafted with the assumption in the PRF of "Active participation and collaboration of the key stakeholders of coral reef restoration for the timely drafting of the manual". This is rated as being on-track. Since the project document was written, there have been several best practice guidelines produced. In light of this it was decided that it would be better to wait to later in the project to produce additional methodologies and good practice guides. This timing also makes sense as mid-term is too early to fully document the lessons and findings of the project's coral restoration work. Hence there is no draft available at mid-term. However, the CTA has developed a table of contents for the *manua*l and a chapter template for each Activity Partner / NGO to capture the coral restoration methodologies and lessons and to help harmonize the information to be collected for the development of the *manual*, approved during the PSC held on 9 November 2022. Activity Partners are due to submit their draft chapters by mid-February 2024.

Outcome 3.3 Regional capacity developed for sustainable and climate resilient coral restoration

Output 3.3.1. Regional training programme on reef restoration in place, possibly with an associated Certificate of Competence

As stated in the project document, the project was to host Regional technical training workshops, involving individuals from other countries in the Indian Ocean (particularly the SIDS). Priority will be given to training on methods of coral farming and transplantation, using the experiences and lessons learned gathered in Mauritius and Seychelles. If appropriate, the training programme was to be developed in such a way that a Certificate of Competence could be awarded to participants.

For Indicator 48 at mid-term at least 7 members from [Mauritius and Seychelles] WIO region countries were to be trained in coral reef restoration methods, with particular attention given to increasing female participants/beneficiaries from the capacity building activities. It is assumed that this relates to training on coral farming and transplantation and micro fragmentation and hence has not been met, as training on genetics / clade analysis is specifically measured under indicator 49[39].

3.3.1.1 Regional training on genetic/clade analysis

For indicator 49, at least 10 participants (from MBEMRFS, SPGA, Nature Seychelles, MCSS and some participants from the WIO region who are active in coral restoration work) were to be trained in advanced coral genetics including clade analysis. Note this is under output 3.3.2 in Results Framework. The objective of this training is to build capacity of stakeholders from Mauritius and Seychelles in carrying out genetic/clade analysis to identify resilient coral species and also the feasibility of sexual propagation of corals in land-based nurseries. This links with activity 3.1.3.1. The mid-term target is partially met, with the regional workshop on coral genomic analysis rescheduled to June 2024

3.3.1.2 Regional training on coral farming and transplantation

A regional training on coral reef restoration using standardized methodology and lessons learned and best techniques used to representative of the WIO region countries involved in coral reef restoration, led by MBEMRFS in Mauritius was proposed, but is not budgeted for.

3.3.1.3. Regional training on micro-fragmentation

[39] It is noted that Nature Seychelles has provided training on coral restoration techniques to 1 member of Shoals Rodrigues (AP for Rodrigues).

Nature Seychelles is responsible for delivering the regional training on micro fragmentation and fusion of massive corals. Originally planned for 2023, this workshop has been delayed due to the delays to the land-based nursery in Seychelles but is planned for 2024. The cost of delivering the training has increased since the project design phase and additional resources (USD 6,900) were approved by the PNCC and the PSC. An expert from the USA, who supported the design of the land-based nursery in Praslin, will deliver the training.

Other

In addition to training highlighted under other activities above: (i) staff from the NGOs, MOI and AFRC have benefited from scuba diving training; (ii) MOI and AFRC staff have been trained in Drone operations and MIKE software modelling. MOI is currently finalizing the drone operation manual based on legal advice, without which the Civil Aviation Unit will not issue the permit to fly drones for the GIS surveys and beach profiling (especially for BBMR which is near the airport of Mauritius). Training on equipment (Drone) and software (MIKE) is intensive and the availability of MOI staff for all classes (which is mandatory for them to get a license and certificate) proved to be difficult given the on-going work of the staff (PPR2); (iii) all Partners under the project have followed training in Harmonized Approach to Cash Transfer (HACT) and SES environmental safeguards and guidelines; and, (iv) it was requested that all APs be trained in the use of photogrammetry such as AGISoft to monitor coral growth, being used by APs in Seychelles APs. This training is ongoing and will be completed by 5th February 2024.

3.3.1.4 Feasibility study of setting up of genetic laboratory in Seychelles.

The intention was that the MOI would carry out a feasibility study for setting up of genetic laboratories at the Seychelles Fisheries Authority and the University of Seychelles. It is understood that there is limited interest and that this is not going ahead at this time.

Output 3.3.2. Regional training workshops undertaken on monitoring, DNA based approach for the identification of resilient corals, genetic connectivity and other topics as appropriate

Activities under this output do not match the output header or indicators; they not linked to training. Indicator 52 relates to survey work, while indicator 50 relates to a coral restoration plan, hence the activities are better placed under output 3.3.3. Outputs 3.3.1 and 3.3.2 could be combined.

3.3.2.1 – Carrying our spatio-temporal study of the coast at the restoration sites to monitor long term impact of restoration work; and,

3.3.2.2 – Carrying out the current pattern for Mauritius, Rodrigues and Seychelles.

Current pattern and spatio-temporal studies undertaken by the project were intended to be used as planning tools for the regional coral reef restoration plan. They will enable the identification of strategic locations for nursery set up and for future restoration works, and where hybrid reef structures could be used for future coastal protection works thus enhancing coastal protection. A common view is that the surveys happened too late to inform the project's coral restoration activities – they were meant help to identify nursery and restoration sites based on optimal conditions for growth but work on the nurseries started a year before the surveys[40]. It is therefore

[40] In Rodrigues, nurseries were located in three positions without current pattern information and one of the sites became full of algae, indicating that nurseries should not be put the same side as current. For Nature Seychelles, pre-existing sites continue to be used which may not be in the ideal location.

important that the project articulates how the findings can be used going forward. In several meetings including PSC meetings in Mauritius, it was reported that current pattern survey results and MIKE models would help the MOI and the CTA confirm the nursery sites are appropriate, and if there is need to be relocate and /or reorient nurseries to resolve the problem of high algal fouling rate, as well as to help identify the best sites for out-planting nursery-grown colonies in the Blue Bay Marine Park. Depending on the results, it is also suggested that the surveys may be useful to inform the placement and /or re-orientation of future mid-water rope nurseries, provide a baseline for the outplanting sites, and may help identify other sites in need of restoration.

For Indicator 52, at mid-term at least 5 surveys (one in each site) were to be undertaken on wave pattern, beach erosion and mapping. The surveys partially completed for all sites Q4 2023; oceanographic surveys have been completed but beach erosion and mapping surveys have not pending completion of drone manual. This indicator is therefore rated as on-track.

Four procurement exercises were launched to purchase the specialized equipment and software for the regional and national surveys and studies. Due to COVID-19, there were delays in the delivery, which held up surveys and studies on wave pattern, beach erosion and mapping.

Both studies / surveys were underbudgeted. The original budget consisted of: Budget line 18 – cost of contractual appointment to carry out biannual beach profiling and GIS mapping in Seychelles (USD 128,000); and Budget line 26 (d) current pattern – USD 59,760 – 3 staff for 7 days for 2 years plus ferry allowance. However, at least 12 days is required to conduct the surveys at the three project sites in Seychelles. There was also no budget provision for transportation of equipment, logistics for field surveys and consumables for Seychelles survey missions. For transportation of equipment, logistics for field surveys and consumables for Seychelles survey missions – budget item 72300 under component 3 was used. Staff allocation to APs in Seychelles to assist MOI staff has also been made under component 3 budget item 72100 for USD 12,000.

Both studies / surveys faced capacity constraints at MOI. Staff from AFRC and NGOs/ APs were engaged to help due to the lack of human resources at MOI, but as they were not trained their input was limited to help with diving support, deploying equipment, night patrols and carrying equipment. The procurement of local experts to assist in the surveys was also approved by the PNCC as a possible solution but could not be actioned as the equipment required for the surveys is only insured for used by AFRC, MOI or UNDP staff.

Activities:
3.3.2.3 Review the legislative and legal framework of each country
3.3.2.4 Preparation of a Regional Coral Reef Restoration Plan.

According to the project document, a Regional Coral Reef Restoration Plan was to be developed including national components to enable both countries to: (i) have a long-term National plan for coral reef restoration work; (ii) improve policy, institutional framework and enforcement of coral reef protection in each country and in the region; (iii) set up long-term monitoring of restoration and coral reef ecosystem; (iv) devise a sustainable financial mechanism for future restoration works; and, (v) establish a domestic and regional network and collaboration for regional research, knowledge and expertise exchange, and transfer of knowledge, expertise and equipment.

Against indicator 50, a draft plan was to be drafted by mid-term, but this has not been done and this activity is no longer considered a priority. The added value of additional plans is not clear given that each country has a MPA management plan which includes a financial strategy; Nature Seychelles are developing a business plan, SPGA have a business plan, and Seychelles already has a Strategic Coral Reef Action Plan, which the new SEYCCAT- GFCR funded project is supporting the implementation of. It is recommended to produce Sustainability / Exit strategy for then project instead.

Output 3.3.3. Sustainable long-term monitoring programme

- Indicator 50: Regional Coral Restoration Plan including national component and long- developed and underway for restored reefs, based on international/regional protocols and best practice term monitoring programme (discussed above)
- Indicator 51: Participation in regional and scientific international forums (contingent on development of research papers). N/A at mid-term.
- Indicator 52: Regional studies on wave patter, beach erosion and mapping (discussed above)

3.2.2 Remaining barriers to achieving the project objectives

Remaining barriers to achieving the project objectives in the remainder of the project include:

- Capacity issues at Ministry of Blue Economy, MOI and AFRC holding back key project activities, such as the land-based nurseries.
- Unsigned revised MOUs for APs in Seychelles, and competitive culture amongst APs, which is not a project specific issue, but hinders information sharing and collaboration and hence learning and partnerships.
- The need to formalize approaches for collating and dissemination of project lessons and findings and build sustainable partnerships within and across the two counties and the region.
- Project website yet to become operational and general need to increase visibility of the project at all levels.

There are also aspects of the project that have already been successful, which the project can further expand on, these include: (i) Work with beneficiaries and hotels / private sector; (ii) experimental work in coral restoration in Seychelles with the potential of pushing forward technical know-how in this area.

3.3 Project Implementation and Adaptive Management

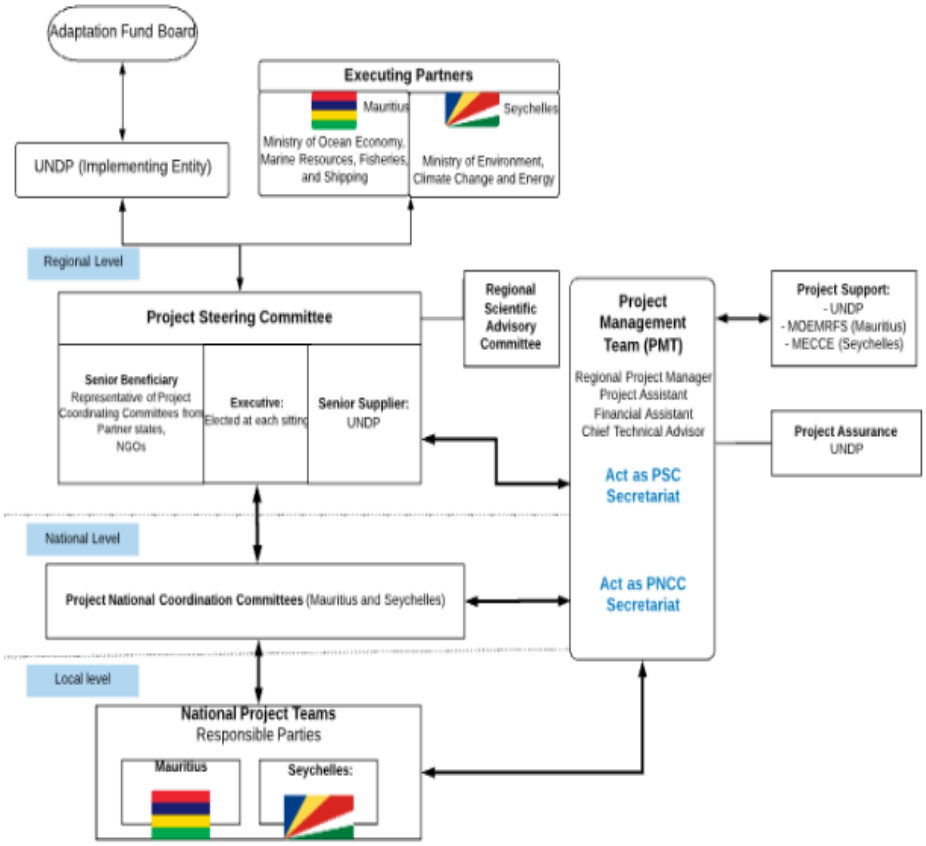
Project implementation and adaptive management is rated as **Marginally Satisfactory**. Key project management issues discussed in more detail below relate to: communications, coordination across partners, disbursements and planning. However, it is noted that the project's first 2 years coincided with COVID-19 restrictions followed by the Ukraine war. The project has put in adaptive measures to deal with these external factors along with measure to account for the inconsistences in the project document including those related to the budget to better rationalize project implementation.

3.3.1 Management Arrangements

The project is operating under the **Direct Implementation Modality** (DIM). This means that UNDP is responsible for management and oversight. The project management structure is complex operating across three levels of implementation - regional, national and local (Figure 1).

At the local level, in Mauritius the partners had not been identified in the project document and so a call for proposals was launched. The three NGOs signed Responsible Party Agreements (RPAs) with UNDP. In Seychelles UNDP signed a Letter of Agreement (LOA) with MACCE and the Activity Partners signed agreements with MACEE, therefore MACCE is responsible for managing the activity partners and there was a firewall put in place in relation to communications between UNDP (including RPM and CTA) and the Activity Partners.

Figure 1: Project management structure (source: Project Document)



3.3.1.1 Regional level management

The PMT, based at UNDP Mauritius, was fully staffed for the period November 2020-December 2022 only; ***the PMT has been operating without a RMP since the start of November 2023, alongside vacancies in other PMT positions, at this critical time for project***. The PMT consists of the following members[41]:

- A Regional Project Manager (RPM). This position was filled between November 2020 and November 2023. A new RPM is expected to join in February 2024.
- A Project Assistant. This position was filled from September 2020 to September 2023. A new project assistant joined in January 2024.
- A Finance and Administrative Assistant. This position was filled between September 2020 and January 2023. It was briefly filled from October to mid-December 2023. The last incumbent was placed in a challenging position, overlapping with the RPM for only 1 month

[41] As provided by UNDP Multi-Country Office

and then being the only PMT member in post. The post is currently vacant, and a new recruitment process has been initiated.
- A National Project Coordinator (NPC) for Seychelles: This position was filled between August 2020 and March 2023. A new NPC joined in October 2023.
- A Finance and Administrative Associate (FAA) for Seychelles: This position was filled between August 2020 and April 2023. A new FAA joined in February 2024.

Between January 2023 and September 2023 only the RPM and Project Assistant were in place, while the RPM was working alone for 2 months of Q3 2023, which hindered her ability to follow up as needed on project issues and required her to divert time on to recruitment.

The option of including a **technical support** person (Research Assistant) to the PMT was suggested by the PNCC Mauritius and is under discussion. This person would provide day to day technical support, in particular to support the land-based nurseries, complementing the CTA, whose number of days and deliverables are fixed, and supporting the RPM. While this support could be useful, the immediate priority is to contract and on-board the core PMT members.

The lack of a project team is of high concern, given the need for more not less project management at mid-term to accelerate project delivery. It has also made the mid-term review harder and since the new project team will not have engaged at all in the mid-term process, they will not be able to seamlessly adopt the mid-term review's recommendation as endorsed by the management response. While there are assurances that the procurement of a RPM is being fast tracked, concerns remain over the length of time typically taken to recruit staff.

A strong, committed, dynamic PMT is needed to coordinate across partners and accelerate activities. The PMT members also need to encompass the right set of skills including project management of complex regional projects, a scientific background in coral / marine environment and strong procurement skills to efficiently navigate the procurement process for the land-based nursery and seawater pumping station at MOI, which will need approval by UNDP HQ given its high monetary value.

The MTR notes a number of areas where regional project management could be improved going forward including: communications in general; speed of response to queries; more efficient procurement approvals; better planning to avoid the numerous last minute request and to provide APs/ NGOs with a reasonable timeframe within which to respond to requests (such as attendance at meetings and preparation of presentations); and addressing the delays in disbursements.

UNDP Mauritius provides project oversight. The Resident Representative (RR) when available, or the Head of Environment, chairs the PSC. There have been at least three changes in the person acting as the UNDP Head or Deputy Head of Environment during the course of the Project. The current UNDP Head of Environment was engaged in the project supporting the ex-RPM in the absence of the PA and FPA and providing additional support in the absence of the PMT. Since the employment of a new Project Assistant in Mauritius, their role has since reverted to Project oversight. The RR has intervened to catalyse the decision-making process at the Ministry of Blue Economy, Mauritius, which had been slow in making decisions regarding several activities. The project has had two RTAs; the current RTA joined in September 2023.

The CTA has been in post since July 2021 (part-time and located in the UK). On the whole APs / NGOs and other partners value the expert technical advice and engagement with the CTA. However, some considered her to be too far away with support limited to only two visits per year, and for the Seychelles her involvement came late given that the work started a year ahead of her

joining. Communications with the CTA are typically channeled through the RPM rather than directly. It is recommended that APs / NGOs should be able to directly email the CTA for timely advice copying in the RPM and PDCS (in Seychelles). It was noted that the firewall between UNDP and the Activity Partners in Seychelles complicates this, and a concern was raised that direct engagement between the CTA and APs could undermine the DIM modality in the context of management and oversight issues. It was noted that the CTA has not always met with senior Government officials during her missions and that this should be factored into future missions (which are organised by the PMT), to help alleviate bottlenecks.

Regional Scientific Advisory Committee (RSAC). It was intended that the **Regional Scientific Advisory Committee** would play *an important role* in the planning of research under component 3. As suggested in the project document, the project explored the option of the **Coastal Oceans Research and Development in Indian Ocean's (**CORDIO) Coral Specialist Group[42] acting as the Regional Scientific Advisory Committee but this did not work out. The project document envisaged that the Coral Specialist Group would chair the RSAC but no formal written agreement was secured when it was submitted. When the project started, CORDIO did not respond to email requests. The project then distributed an email via the Coral List soliciting expression of interest in membership of the RSAC. There were over 100 responses, which were reviewed and ranked against a set of criteria, with 6 selected. Some project partners were not happy with the lack of national and regional experts within the group[43]; one possible explanation for this is that the role is effectively voluntary which deters many applicants.

The RSAC is *not f*unctioning as intended and should have provided more support for the project from the start. Some members have been contacted for advice on specific questions (e.g. related to the land-based nurseries, species identification and other matters), which has been useful, but others had not heard at all from the project up until the recent Regional Technical Meeting in October 2023.

The RSAC is still largely considered to be important and highly relevant and there is interest in it playing more of a role going forward. There are a lot of technical issues the RSAC could contribute to, including support for the land-based nurseries. Of note there is no budget allocation for the role apart from minimal travel budget consisting of DSA for 1 day, which is not appropriate. Therefore, the role is voluntary and needs to be executed through remote meetings. A WhatsApp group could also be set up for rapid information sharing between the project and RSAC members. Involving RSAC members in publications could also be an incentive for more engagement from RSAC members. There is an urgent need to build relationship with members of this group and clarify its modus operandi if it is to have any value going forward.

There have been 4 PSC meetings since the start of the project[44], held annually. The PSC is generally well attended, with around 28 attendees including one representative from each AP/NGO. PNCC meetings in Mauritius are chaired by the Director of the MOI. There have been 7 PNCC meetings in Mauritius[45], which are well attended, but it is noted that members of the Ministry of Blue Economy (outside of MOI) have not attended any meetings. The PNCC in

[42] This group consists of international specialists in coral protection and restoration and is also affiliated to the International Union for Conservation of Nature (IUCN)
[43] There are two Seychellois and two Mauritians on the RSAC. Countries were asked to nominate two representatives. Seychelles initially nominated two expat experts - one of whom declined because the position was not remunerated. With the general call – via Coral List - there were no qualified applicants from within the region.
[44] November 2020, December 2021, November 2022 and October 2023.
[45] March 2021, July 2021, October 2021, March 2022, July 2022, March 2023, September 2023

Seychelles has convened 6 times to date[46] and is chaired by the / Permanent Secretary (PS) of MACCE in Seychelles. A technical committee has been set up under PNCC-Mauritius, as there is limited time to discuss technical matters in the PNCC meetings, which has met once so far. It includes representatives from the NGOs, AFRC and MOI.

3.3.1.2 Mauritius – key partners

AFRC is an executing partner. They oversee all activities to ensure that they are carried out to the satisfaction of PSC and Ministry. They are mainly concerned with monitoring, for example, that the collection of nubins for nursery tables is done according to plan, water quality testing at nursery and rehabilitation site, and checking if coral nubins are properly fixed and macro algae cleaned. They have undertaken two monitoring trips to BBMP and one to SEMPA. Some recommendations have been made, for example on the need to properly secure cable ties and to do regular cleaning of macroalgae. The first monitoring report August 2023 was shared as a joint report with UNDP/AFRC and MOI. However, the monitoring report from October 2023 not been shared yet pending approved by the Ministry of Blue Economy.

The MOI (a parastatal under the aegis of the Ministry of Blue Economy) is an executing partner of UNDP. The MOI and AFRC are helping to conduct the following activities: support procurement (undertaken by UNDP) of oceanographic equipment and tools (e.g. finalizing specifications); providing capacity building and assistance to the NGOs on coral restoration activities; conducting current pattern and sediment movement surveys to identify the most suitable places for coral nurseries and restoration works in Mauritius, Rodrigues and Seychelles; conducting beach profiling surveys in Mauritius, Rodrigues and Seychelles; assisting in DNA analysis to identify genetic connectivity of corals in Mauritius, Rodrigues and Seychelles and to identify heat resilient corals; and, construction of a land-based nursery at MOI and installation of a sea-water pumping system for the asexual propagation of heat resilient corals. As discussed above the MOI staff capacity has changed significantly since project design, with a lot of core staff with direct involvement in the project design and expertise related to the project leaving in 2020. Recruitment of staff has also been slow (partly due to slow approvals of procurement by UNDP) and it has only been possible to recruit new staff in 2023. The PNCC Mauritius (September 2023) agreed to external assistance of external experts to: (i) support the MOI with current pattern surveys, GIS mapping and modeling over the next 2.5 years; and (ii) assist the team with the genetic analysis of corals for propagation in the land-based nursey (for 1 year once the DNA analysis is completed).

Ministry of Finance, Planning and Economy. The focal point at MOF has been engaged in the project from the start and sits on the PSC. MOF is responsible for policy. The Resource Mobilization Directorate of the MOF is in direct contact with AF. Funding for the land-based nurseries in Mauritius is through the MOF's National Environment and Climate Change Fund (NECCF)[47], which is disbursed to the Ministry of Blue Economy through UNDP.

Rodrigues Regional Assembly (RRA) has decision making powers over Rodrigues related matters though it cannot pass legislation. It is led by the Chief Commissioner. Through its Commission on Environment and other commissions such as Tourism, Youth, RRA supports coral

[46] March 2021, July 2021, November 2021, April 2022, July 2022 and September 2023

[47] An Inter-Ministerial Council chaired by the Prime Minister decides on important climate change related projects. Following this, a committee chaired by minister of finance disburses money through ministry of finance under the NECCF.

restoration by providing incentives to locals to use resources sustainably and restore degraded coral reefs. RRA actively supports activities by Shoals Rodrigues such as in community engagement and procurement of equipment. RRA is also expected to help with overseeing SEMPA where illegal fishing takes place that could impact on coral restoration work.

3.3.1.3 Seychelles

Project team in Seychelles. A common view of project partners in the Seychelles is that there has been insufficient project level support and oversight for the project from the beginning, given its size and complexity. UNDP appointed a National Project Coordinator and Finance and Administrative Associate in Seychelles in August 2020, recognizing that the project required a lot of coordination, and a team was needed in the Seychelles as it is difficult to manage remotely. They had 75% of their time allocated to the project; support by the regional team in Mauritius was still needed (e.g. writing notes of meetings). There was also a part time report writer, who helped compile the quarterly reports (who is now the full time NPC). This meant that the role of Finance and Administrative Associate was effectively split. However, there was no one following up on comments on the quarterly reports – resulting in the same comments being repeated every quarter. The NPC and Finance and Administrative Associate left in June 2023, following promotions and while no longer part of the project team but are still supporting from the UNDP programme side.

Project management in the Seychelles has been placed on an improved footing with the appointment of a full-time project coordinator in place since October 2023 under a 3-year contract, whose background includes coral restoration. This should greatly increase the support to and coordination among the APs and it is recommended that regular progress calls and a schedule for regular site visits are formalized. The Finance and Administrative Associate post is important to ensure that the Project Coordinator's time is focused on technical and coordination issues, rather than administrative matters which can be very time consuming. It is understood that recruitment for this position was completed as of 5 February 2024 and an offer is being processed by UNDP GSSC.

UNDP Programme - Seychelles consists of a Programme and Operations Specialist, Programme Analyst and Programme Assistant responsible engaged in oversight of the project.

Ministry of Agriculture, Climate Change and Energy (MACCE). MACCE is the Responsible Party to the Project, formalized through the Letter of Agreement (LOA) with UNDP. The Activity Partners have signed MOUs with MACCE, therefore MACCE is responsible for day-to-day management of partners and engage directly with them. A new Principal Secretary of MACCE took up the chairmanship of the PNCC of Seychelles in April 2022 and is actively engaged in the project.

Programme Development and Coordination Section (PDCS)[48]. PDCS is housed in the MACCE and comprised of Ministry staff. It includes a Chief Programme coordinator supported by a Senior Accountant and Procurement / Adminstrative Officer. They are expected to recruit a Communications and a Monitoring and evaluation officer. PDCS receives 5% of the project budget.. APs send quarterly financial reports to PDCS which they check and then send to UNDP for clearance and cash request. The PDCS are main the intermediary between APs and UNDP; better communication is needed between PDCS and APs.

[48] In 2021 the former Project Coordination Unit (PCU) was restructured to the PDSC.

Key operational issues – Seychelles

LPAC (December 2019) and funding for early project start in Seychelles. As discussed, work in Seychelles commenced in February 2020, but the Government (MACCE) and UNDP did not sign an LOA until July 2020. The Government was under the impression that it would be compensated financially for the work it had supported during February to June 2020, but after much discussion this did not happen even though at the LPAC meeting Seychelles had been encouraged by UNDP to finalize the MOUs and start work. MACCE subsequently paid the APs, however, partners in Seychelles still feel that an option for the project to pay/compensate for the work undertaken between February to June 2020 should have been found. It is noted that UNDP cannot finance work without a DOA.

MOUs between MACCE and APs. UNDP has a LOA with MACCE and MACCE in turn has MOUs with the three APs in Seychelles, which were signed in February 2020. Following receipt of the DOA in June 2020 and a mission by UNDP Environment Team leader and the Regional Project Manager, discussions were held with MACCE and it was recommended to revise the MOUs to address inconsistencies in project budgeting, and improve reporting in line with donor requirements, visibility that credited donors and Intellectual Property rights. MACCE, which has an agreement with UNDP, is obliged to ensure any subsequent agreements are in compliance with the overarching agreement with the UNDP and amendments to the MOUs are needed to ensure UNDP PoPP regulations, to which the Multi-Country Office has no discretion in implementation, are complied with. This issue has reportedly been canvassed at length with the highest level of the Ministry and the UNDP Resident Representative, however, ***the revised MOUs are yet to be signed, 3 years into the project and it is not evident to the MTR that there is a clear pathway to reach an agreement across all parties.*** Key issues towards reaching an agreement on the MOUs from the APs' perspective are: (i) given the issues over disbursements, Nature Seychelles wanted a condition on finance in the MOU, but UNDP's position is that this is better addressed through SOPs; (ii) APs do not want the agreement to be applied retrospectively, for example on data sharing, and will not sign if this is the case (this has been agreed); (iii) the MOUs have to be the same for all APs and signed at the same time; and, (iv) Nature Seychelles does not have any problems with the existing MOU and has not been provided with a comprehensive explanation of why a new MOU is needed. Further, they deem the language used and its implications unclear and thus will not sign the MOU in its current form. Based on the current MOUs APs are not submitting technical reports and Environment and Social monitoring reports (this is directly affecting indicator 34) and limiting the opportunity for technical input and exchange. Progress reports have a standard template for APs and data against indicators is being provided but with insufficient justification and technical information. This is unlikely to change until the revised MOUs are signed, in the meantime the lack of data and information sharing is a great loss for a project which has knowledge sharing and learning at its heart.

Payments issues. There are ongoing disbursements issues in the Seychelles with payments to APs **consistently late**. This is a priority issue for the APs and a source of discontent and frustration, with APs also reporting limited communication regarding payments. A fundamental issue is that under Seychelles' Employment Act, organizations are fined if they do not pay their staff on time; to avoid fines and ensure timely payment to their project staff APs are having to pay project salaries from general funds, which they reimburse afterwards, putting their financial management under strain. The issue has been raised with UNDP and MACCE multiple times but is still not resolved. Reasons for delays include: (i) for UNDP to disburse funds, 80% of previous budget allocation needs to have been spent. For MACCE to show this is reached all three partners must attain this threshold; SPGA have missed this threshold for two quarters. An explanation for this is that for Nature Seychelles/MCSS salaries account for a high percentage of

the money, while SPGA has more budget allocated to materials and equipment, which can face procurement delays; (ii) In 2023 delays are attributed to UNDP and are thought to be related to the move to QUANTUM (a new global payment system adopted by UNDP) and reduced / change of staff at the regional level which has contributed to the delays in AF funds to the project.

The slow payment for agreed work by APs under Component 3 has also been cited as an example of inefficient payment practices. The payment under component 3 lacked a disbursement protocol. This has only recently been discussed and will require formalization to align with audit concerns. The resolution to date involves incorporating the disbursement of component 3 into the Letter of Agreement (LOA) between MACCE and UNDP.

UNDP together with PDCS need to come up with a payment system that works so that APs are paid on time[49]. Possible solutions include: (i) a system where funds are only withheld for specific partners not meeting 80% expenditure threshold; (ii) PDCS to have a separate dedicated account so if there are delays from UNDP they can make crucial payments – e.g. for salaries; (iii) an extension to the length of budget period to 6 months. Another strategy currently being employed is to request a 6-,omth cash advance combined with Quarterly liquidation. Partners will still have to submit their quarterly reports. Where there is an underspend from December 2023, they are being encouraged to move activities unlikely to take place to Q3.

To address operational issues UNDP has trained partners to build understanding of reporting requirements (HACT training) and developed a check list so everyone knows what they are supposed to do.

Audit. There are no failure audits. However, the HACT for one Activity Partner was qualified over a costing that UNDP had approved for two years. A cost was called a management fee which was not in line with the work plan and should have been put under salary or operating costs. This caused a lot of additional work and grievance with the AP stressing that no wrongdoing was identified on their part (PNCC September 2023). It is recommended that mandatory pre-audit meetings and exit meetings are held with the auditors and that APs make themselves available to meet with auditors.

Adaptive management

The project adapted to COVID-19 in the following way: (i) a virtual approach was adopted for the project inception workshop and the first regional steering committee in November 2020 and for the Project National Coordinating Committees; (ii) project progress meetings were held virtually with the project team and AP /NGOs; and, (iii) consultancy assignments were carried out virtually with stakeholder consultations also organized online such as for the updating of the Social and Environmental Safeguards for the project.

[49] The system requires APs to send their FACE forms and reports to PDSC by the 5th of the first month of each quarter. The FACE form together with the supporting reports should be consolidated by PDSC and reviewed by UNDP by the 10th of the first month of each quarter, following which the process for cash advance request would be initiated. The process is as follows: 1st check by PDCS, 2nd check by UNDP Programme Assistant; 3rd verification by UNDP Programme Manager/Analyst; 4th check by Regional Project Manager/ Finance Manager; 5th Approval by Senior Management and 6th processing by GSSC. Funds are then transferred from UNDP to the Central Bank and then to partner accounts (verification by Ministry of Finance). The process should take about 20 days, although it may take longer in Q1 when additional verification and approval of Work plans are required.

Other key adaptive measures include: (i) Given the scale of the intervention in Mauritius, it was deemed prudent to have two NGOs instead of one as initially planned; (ii) Various budget reallocations were approved by the PSC, as discussed below, to address inconsistencies in the project document and respond to project bottlenecks (e.g. address capacity issues at MOI and finding a solution to the running of the project website).

3.3.2 Work Planning

As discussed, the project is running on different timeframes in the two countries, with implementation being roughly two years ahead in the Seychelles. The reasons for this are that Seychelles started work in February 2020 following the LPAC meeting and since APs had already been identified in the project document, could start work on the ground straight away. Conversely, in Mauritius, work on the ground was not fully underway until March 2022 due to the need for additional monitoring requested by the RTA, and the time taken to contract the NGOs. The discrepancy in timing between the countries, has implications for when the fieldwork will end in Seychelles and how Seychelles partners can be engaged in the project after this to input fully into component 3. According to the Multi Annual Work Plan all resources will be expended by 2025 in the Seychelles, as they are largely used for staff costs.

Annual work-planning plans are produced and approved by the PSC. The workplans align with project's results framework, although as detailed in section 3 there are various inconsistencies in PRF which impacts on its use as a management tool.

3.3.3 Finance and co-finance

Table 10 presents an overview of expenditure to September 2023, at which point 38% of the overall budget had been spent. Expenditure across components is consistent with the start dates of the various components and their activities. For example, only 28% of the budget for component 1 has been spent, reflecting the later start up in general and start dates of work by the NGOs in Mauritius relative to Seychelles; for Component 2 expenditure is 58% (work here is considered to be at the mid-way point). Of note only 25% of the PMT budget has been spent, reflecting the gaps in staffing to date, but also suggesting that PMT staff costs if the project is extended could be covered by the existing budget. Expenditure as of 31 December 2023 was USD 794,578 (breakdown by component not provided).

Table 10: Overview of project expenditure

Components	Budget	Exp as at 31 Dec 2022	Exp Jan-30 Sept 2023*	% Cummulative Expenditure
Comp 1 (Mauritius) - AF	2,500,000	498,978	202,619	28
Comp 2 (Seychelles)	2,500,000	1,153,116	286,790	58
Comp 3 (Regional)	3,264,633	971,697	126,108	34
PMT	867,787	179,910	39,994	25
TOTAL AF funding	9,132,420	2,803,701	655,511	38
Govt Cost Sharing	1,407,274	6,921	14,068	1
TOTAL	10,539,694	2,810,622	669,579	39

** Figure as per CDR amount and includes liquidation for Jul-Sept for Seychelles*

In **Mauritius** 3 RPAs have been signed with the following NGOs in Mauritius and Rodrigues, totaling USD1,551,529 (USD1,0000 from UNDP/AF project):

- EcoSud - USD 575,290 (USD 340,000 from UNDP/AF Project and USD 95,290 from UNDP/GEF Mainstreaming Biodiversity and USD 140,000 from COVID 2.0 project)
- Reef Conservation – USD 575,239 (USD 410,000 from UNDP/AF Project and USD 155,239 from UNDP/GEF Mainstreaming Biodiversity and USD 10,000 from COVID 2.0 project)
- Shoals Rodrigues – USD 401,000 (USD 250,000 from UNDP/AF Project and USD 151,000 from UNDP/GEF Mainstreaming Biodiversity)

An estimated USD821,278 has been spent on assets for the project including office equipment, communication equipment, vehicles, and technical and survey equipment. These assets have largely gone to MOI, who have distributed some to APs. Technical equipment accounts for 88% of the expenditure on assets[50].

In **Seychelles** USD 2.2 million (88%) of the UNDP/AF budget allocated to component 2 is allocated to the APs, compared to 40% in Mauritius.

As stated in the PPRs all procurement under the project is conducted as per POPP guidelines, ensuring value for money in the selection of all consultants/ contractors working on the project. At the project staffing level, the necessary budget classifications have been made to ensure that the project staff are all categorized under the appropriate budget lines, both in Mauritius and Seychelles.

[50] Technical equipment includes: Underwater ROV system, Wave and tide data loggers, Handheld echosounders, Handheld GPS with carrying case (Garmin 78s), Directional Wave Recorders, Conductivity Temperature Depth +, Electromagnetic current meter, Acoustic Doppler Current Profilers, Sigma Centrifuge 4 -16S QIA/81520. Laboratory water purification system and accessories - Evoqua Labostar Pro TWF UV, Freezer - Arctiko LF 300, MIKE software package, Single beam echosounder (SonarMite v5), Current meter loggers (Lowell TCM-4), In situ loggers (temperature) (HOBO UA-002-64), Underwater cameras (Nikon Coolpix W300, PulSAR Wideband Side Scan Sonar System, DJI Phantom 4 Multispectral drone, DJI Matrice 300 RTK lidar drone, HOBO temperature reader (BASE-U-4

Delays in disbursements at all levels. Delays in disbursements from AF had knock on effects in 2023. Funds were requested in January and due in April 2023; the funds were received in October 2023. The project has been using some of the funding for expenses for next year to keep going. As discussed above, disbursements in Seychelles have been consistently late throughout the project, and disbursements managed by UNDP in Mauritius to contractors have also been significantly delayed.

Budget revisions

Challenges regarding the budget include: (i) planned activities without a budget allocation or with insufficient budget; and, (ii) budgeted items not referred to in PRF / project narrative. Furthermore, the project budget is based on 2017 costings; since then prices have escalated significantly making project delivery difficult. The project has made numerous budget reallocations to account for these factors, which are all considered appropriate (see also Annex 4). Issues and revisions include:

- Insurance of equipment was unbudgeted; funds were therefore reallocated from the budget of equipment and materials (PPR2).
- Permits for the installation of structures in marine protected areas in Mauritius were unbudgeted.
- No budgetary provision was made in the Project Document for knowledge exchange between project partners through technical meetings and site visits. An in person technical meeting was held on the eve of the PSC meeting on 8 November 2022, financed through savings from the previous year's travel budget. A second in person technical meeting was held in October 2023. The budget is limited for such events to be held every year, especially given the significant increase in air tickets prices.
- Current pattern surveys were under budgeted. Provision was made for only 7 days in Seychelles for 3 different sites. The budget was hence increased.
- Assistance on component 3 was not initially included in the original work plans of APs when the budget was negotiated.

Budget considerations

It is understood that the AF does not support budget reallocations above 5% between project components. The PSC November 2022, also notes the absence of a contingency budget, limiting flexibility to respond to unforeseen events. Additional reallocations at the mid-term to consider are:

General

- Technical support and continuity. The CTA has 170 days allocated (2021-2024). Given the wide range of technical advice required, number of activity partners, capacity constraints within government, the number of days allocated to CTA is insufficient to cover in country missions and all technical support. For example, no days were allocated to support the review of the feasibility study for the land-based nurseries. Insufficient days and DSA were allocated for field missions (5 field missions were planned, but 1 mission was moved because not adequately financed). Over and above mid-term review, the project makes provision of USD 50,000 for an international M&E consultant. Given that the CTA monitors progress of project activities in Mauritius, Rodrigues and Seychelles, these resources could be allocated to the CTA. Additional person-days for the CTA could improve the following: (i) Monitoring of the technical indicators of APs/NGOs; (ii) Support of the construction of land-based nurseries and sea-water pumping; and, (ii) Coordination with RSAC members and other experts in each specific field to ensure up-to-date knowledge to project partners.. However, it is noted that the CTA services are procured

under specific TORs, which do not include a number of these activities. and a contract revision would therefore be required. More fundamentally, the CTA is the only remaining regional level project member with an in-depth understanding of the project across all three components; her engagement is critical particularly through 2024 to ensure continuity but her contract ends in June 2024.

Components 1 and 2:

- An E**I** Nino contingency plan to help Activity Partners pilot experimental approaches to protect coral sites from bleaching, where feasible (discussed under Section 3.4.1)
- Budget to enhance collaboration and coordination among APs/NGOs

Component 1:

- AFRC Land-based nursery underbudgeted (feasibility currently under revision to reduce scope)
- Coral restoration activities under output 1.2. 3. Underbudgeted. Suggested allocation - USD55,000 to 3 NGOs (USD 21,000 each to Reef and Eco-Sud and USD 13,000 to Shoals Rodrigues)

Component 3:

- Workshops and trainings (i) Regional/National Coral Reef Restoration Plan – there is provision for travel under budget line 26 for the 2 proposed workshops, but there is no budget for the organization of the regional workshops under budget No. 24 or DSA for the 2 local experts attending the RRP workshop. It is however noted that the Regional Coral Reef Restoration Plan, may not now go ahead and be replaced with a project sustainability / exit plan; (ii) The Completion Workshop under budget line 24, does not provide a budget for the cost for participants from Mauritius, Rodrigues, Seychelles, CTA and consultants. It may be possible to combine / refocus this workshop with the project Sustainability / Exit plan proposed; and, (iii) Budget item 24 (activity 3.3.1.2) mentions organization of a workshop in relation to reef restoration methodologies, concept and practices – however, no funding was allocated for organization of workshop and travel of participants.
- *3.3.*2.3 Updating the inventory of the corals in Mauritius and updating the booklet describing the corals of Mauritius and Rodrigues. The PNCC Mauritius (5 September 2023) proposed an online publication to save on publication costs which could then be relocated together with additional re-allocations under component 1 to recruit a local consultant to produce the document and a coral taxonomist to review it. The NGOs in Mauritius and Rodrigues could be included in the sampling under the guidance of the national consultant against payment as appropriate. Possible reallocations: USD 30,000 to support Coral Inventory booklet.
- Addition budget needed to address staff constraint at MOI to conduct current pattern surveys and GIS profiling and future genetic analysis work.
- Budget needed for attendance at regional and international fora to increase the visibility of the project.
- Development of a project Sustainability / Exit strategy proposed.

Potential budget lines from which budget may be reallocated

This is not considered to be an exhaustive review and the RPM should undertake a complete review of the budget and present a clear proposal to the PSC of the priority needs (activities needing additional budget or new activities) and available saving / reallocations possible. This needs to be in line with donor guidelines.

Component 1:

- *Budget item 72300 (budget line 6(i) - "consumables for water quality monitoring." T*he amount earmarked for this activity was USD 26,0000 per annum for 6 years. However, coral plantation activities started in 2023 and thus relevant monitoring data is required from 2023. Moreover, the AFRC has also provided the NGOs is Mauritius some data as it conducts quarterly monitoring in Blue Bay Marine Park Area. The resources are being allocated to NGOs and AFRC to top up this monitoring for sites not covered currently by AFRC and for more frequent monitoring e.g., monthly monitoring of some parameters. Further, following an assessment conducted by AFRC some equipment and consumables will be bought for Rodrigues. Hence savings of around USD 85,000 are envisaged.
- Plant & Nursery man (Budget item 72100). There are savings from the Budget of USD 128,304 allocated for two nursery men and one plant operator for the AFRC and MOI land-based nurseries (salary for 5.5 years, or USD 23,328 per year). It is unlikely that the land-based nurseries will be completed in 2024, and thus at least 3 .5 years of salaries will be saved (factoring in a proposed 1-year extension), representing a saving of USD46,655.
- An additional USD 128,800 is reportedly available against contractual Beach profiling and GIS mapping in Seychelles.

Component 3

- Documentary Film Development (USD 235,629) has been cited as a source from which budget can be reallocated. However, it is noted that given the importance of raising the visibility of the project, a clear and agreed plan for the use of these funds needs to be determined first.
- Coral Reef Restoration Plan (USD 60,700), which is not a priority given that APs are already working on Coral Restoration Manual, Business Plan (Nature Seychelles) and Sustainability Plan (NGOs in Mauritius & Rodrigues). The added value of additional plans is not clear given that each country has a MPA management plan which includes a financial strategy, SPGA have a business plan, and Seychelles already has a Strategic Coral Reef Action Plan, which SEYCATT- GFCR funded project is supporting the implementation of.
- Budget of Miscellaneous expenses.

Co-financing.

The project had no co-financing requirement**,** nonetheless the project has secured co-financing in both countries. In Mauritius a Cost Sharing Agreement between UNDP and Government of Mauritius was signed for MUR 59 million for the setting up of land-based coral nurseries and seawater pumping system in September 2021. Additional resources from the UNDP/GEF Mainstreaming biodiversity project were mobilized and allocated to coral restoration activities in Mauritius and Rodrigues amounting USD 387,000. Part of the resources will be used to buy photogrammetry equipment to enable the NGOs to better measure and monitor the extent of coral restoration activities; this will help ensure the quality of reporting to AF. The NGOs have also mobilized additional resources, for example Reef Conservation has a grant from the EU for monitoring and Shoals Rodrigues was awarded a training grant by the RRA, which enabled two staff members to be trained in reef restoration methods by Nature Seychelles.

In Seychelles, although not anticipated, MACCE (formally MECC) bore all the costs for February-June 2020 as co-financing; 1 million Sey Rupees was allocated from Seychelles' Environmental Trust Fund (ETF). SeyCCAT has provided a grant of 1.7 million Sey Rupees to Nature Seychelles to upgrade the land-based nursery. Nature Seychelles has signed an MoU with Raffles Hotel Praslin to build an artificial reef along the shore of the Raffles hotel and train their staff members to execute restoration activities in exchange for CSR donation of USD 6,000. In addition, Nature Seychelles signed a co-financing agreement with CMA CGM for 2 million Sey Rupees in October 2021 to cover the cost of solar panels for the land-based nursery and contribute to capital costs of the facility.

3.3.4 Project-level Monitoring and Evaluation Systems

The budget allocates USD45,000 for the mid-term and for the terminal evaluation. In addition, there is a provision of USD 50,000 for an international M&E consultant (it is suggested that this may be reallocated to CTA – see discussion above).

Comparative monitoring across both countries will increase knowledge about the effectiveness of the propagation and restoration methods. A monitoring template has been produced by the CTA to standardize monitoring and reporting across APs/ NGOs. The monitoring template covers donor nurseries, outplanting and control sites and logs some 100 parameters. All NGOs voiced concerns about the capacity and time to undertake the monitoring and/or enter data. While it is recognized that a lot of work has gone into the template and that it reflects the gold standard in scientific monitoring, for almost all it is not feasible to complete, especially for NGOs with limited manpower and capacity. In terms of capacity, in Mauritius, beneficiaries are educated to primary level and they cannot use very technical approaches but could be trained to collect rough measurements. By contrast in Seychelles, in some cases monitoring is led by practitioners with PhDs. **Many APs / NGOs stated that it is hard to undertake the monitoring *and* to reach the targets given the amount of time needed in the water to complete the coral restoration work**.

Other views include: an emphasis should be placed on monitoring at the translocation sites as APs know they can grow coral; the monitoring is a lot of extra work, and it is not clear that the benefit is high enough to justify the additional work.

The template is intended to be used as a *flexible tool* with users adapting it to their circumstances and building on their current monitoring practices. This flexibility built into the M&R therefore needs to be better communicated and understood and it is recommended that APs/NGOs agree with the CTA a realistic monitoring approach, bearing in mind the link between the monitoring framework and key indicators in the PRF and the ambition to transition to standardized reporting. APs were also asked if they wanted a training on the methods manual, but this was not taken up by any of them (some do not recall this offer).

It is noted that Reef Conservation are waiting on MOI / AFRC to confirm monitoring stations and protocols as they do not have access to BBMP. The monitoring responsibilities are therefore expected to be shared between NGOs AFRC, although AFRC and MOI resources to do this are unclear.

Additional monitoring approaches being used by APs in the Seychelles include: (i) photogrammetry (all APs); (ii) Bait Remote Underwater System Videos (BRUV) to detect fish

biomass data to be trailed by Nature Seychelles and MCSS[51]; and, (iii) CBASS system to understand thermal resilience of coral by Natural Seychelles will receive training in this approach from a Masters student from the University of Bremen in 2024[52].

The project livelihood survey is intended to inform monitoring of numerous socio-economic indicators, but the survey instrument is not appropriately designed as discussed above under output 1.1.2, Box 2.

3.3.5 Stakeholder Engagement

Coordination and collaboration between project partners needs to be enhanced going forward to facilitate learning and capacity building. Outside of two annual technical workshops there has been few site visits, formal and informal exchange of ideas, lessons and knowledge. The limited technical exchanges and collaborations between APs is a lost opportunity. However, it is noted that the project budget at design did not provide for collaboration between APs and there was no budget allocation for the regional technical meetings or for staff exchange visits; therefore, a budget allocation will be required for these activities to continue as discussed above.

Steps taken by the project to encourage greater exchange and knowledge sharing include:

- APs are required to prepare progress update presentations for PNCC meetings which includes information on methods and lessons learnt.
- Regional Technical Workshop. Following her first mission the CTA recommended the project organize a Regional Technical Workshop to provide an opportunity for technical staff from Activity Partners/ NGOs to present progress and share lessons learnt; this was approved by PSC. The workshop also provided the opportunity to present and discuss Component 3 activities (for example, MOI staff explained the planned current pattern surveys and genetic connectivity study). To minimize travel costs, Regional Technical Meetings are organized on the day before the PSC meeting Two have been held to dates and APs/NGOs consider them to be valuable.
- Staff exchanges. A Shoal Rodrigues staff member spent 1 month with Nature Seychelles and was trained while helping to stock their nurseries[53]. Another Shoal Rodrigues staff member was scheduled to visit SPGA from the end of November 2023. There are three upcoming regional training events on photogrammetry, micro-fragmentation, and genetics.

There is some informal information sharing between APs in both Mauritius and the Seychelles. However, the consensus view among APs/NGOs is that there is a lack of interaction between APs and opportunities to meet (1 technical meeting a year is not enough and only 1 person is budgeted to attend the PSC), and technically the APs are operating in silos. More site visits and exchanges would be welcome to allow interactions between field staff teams. However, the MTR notes a view that in Seychelles collaboration between APs is hindered by conflicts / competition between organizations.

[51] Nature Seychelles has secured the first session of BRUVS survey and has submitted a grant to cover 2 further sessions (2024 and 2025). Analysis of the latest data shows increments of over 200% showing fish population and coral cover increase (from 0.4 in 2022 to 1.2ind/m^3 and 3.7 in 2022 to 15% in 2023, respectively).

[52] Partners have been encouraged to explore possibilities of mobilizing financial and human resources to use this technique. This proposal was made by the CTA and recommended by technical/RSAC members. CBASS set-up cost is around USD 5,000 each. However, uptake also depends on the human capacity of the partners to conduct such study; training and equipment are required.

[53] The cost of this was covered through grant provide by the RRA.

The signing of the Data Sharing Agreement should also increase collaboration and synergies between Mauritius and Seychelles. It is noted that data sharing is a sensitive issue in Seychelles, which goes beyond this project. The Government should be the custodian of data on its natural assets, which should be stored and managed in a central repository for the benefit of the country. Due care should be taken to properly credit the source of the data stored. It is also recommended that the project set up a central location where all members can share documents and templates to facilitate access to documents.

In terms of developing and leveraging partnerships with direct and tangential stakeholders the project had made limited progress to date. It was intended that the project would collaborate closely with CORDIO on knowledge management and sharing but as discussed this did not materialize. The project document also mentions collaboration with the Nairobi Convention and the two regional projects that the Nairobi Convention Secretariat is executing, funded by the Global Environment Facility namely, UNEP-GEF WIOSAP and UNDP- GEF SAPPHIRE. It is not clear to what extent this has happened.

Opportunities to engage more with SEYCCAT, the Global Coral Reef Monitoring Network for the Western Indian Ocean (which all APs are a member of) and to establish linkages with Maldives could help expand and share knowledge.

In the **Seychelles** per the project document, it was envisaged that: (i) other NGOs with little or no experience in coral reef restoration would participate as part of the capacity building effort; (ii) consideration would be given to involving students from the University of Seychelles as part of their work-study activities, notably the Blue Economy Research Institute (BERI); and, (iii) the National Institute of Science, Technology and Innovation (NISTI) might play a role by contributing to the innovative approaches that will be needed to develop coral restoration as a sustainable enterprise. There is limited evidence of any efforts in this respect[54], but capacity building in these areas could be given more consideration going forward.

Participation and country-driven processes: National government stakeholders support the objectives of the project demonstrated by co-financing and engagement in PSC. However, as noted the Ministry of Blue Economy administrators is the source of some the delays in delivery in Mauritius and has not attended meetings. Nonetheless the project is high up on the national agenda, with high level interest and support for the land-based nurseries. Support at the MACCE Seychelles is considered to be high, including at the level of the Minister, who is championing the project.

Stakeholder participation is high in Mauritius with the engagement of local communities in project activities as beneficiaries, as built into the project approach. Eco-Sud have reportedly held numerous focus group meetings on the southeast coast and community support in general is good. In Rodrigues, there is a good partnership with RRA and the project has built relations with SEMPA, boat owners, RCSS (Rodrigues Council of Social Services), tourism office, national Coast Guard. Stakeholder engagement is less clear in Seychelles.

In terms of **public awareness**, this is an area that can be improved in both countries. In Mauritius, of note Eco-Sud ran an educational program which benefitted 415 people (395 youth, and 56% female). In **Rodrigues** engaging the public is said to be challenging with village communities reluctant to call meetings. The need to get the community more involved is noted to build

[54] Nature Seychelles sent opportunities for volunteering to University of Seychalles, but no feedback has been received. Nature Seychelles have also had 1 work attachment from Praslin International school.

ownership, for example amongst fishermen. It was noted that staff going out to meet the community were not adequately remunerated. Radio is seen as a good media to reach people as is Instagram and Facebook. Activity Partners are all active on social media and regularly post on Facebook, and Instagram, and some also on LinkedIn.

3.4 Social and Environment Standards (Safeguards)

The following risks were identified during project formulation and remain valid:

- Principle 1 - Compliance with law related to potential poaching of corals or illegal trade leading to further degradation of corals. Safeguard measures include enhanced enforcement measures to ensure that private sector involvement in coral reef restoration follows the required standards and chain of custody for corals grown in nurseries, regular and enhanced monitoring at nursery grounds and restoration sites and enhanced monitoring in ports/airport areas for illegal transport of corals. No baselines or safeguard measures were implemented in reporting period 2021-2022.
- Principle 2 - Access and equity. Due to the specialized nature of the skills needed, the project will not involve many local community participants in on-site restoration activities (i.e. activities requiring SCUBA diving certificates). As such, there is a risk that this limits direct participation to a larger number of community members. Proposed Safeguards measures applied include application of clear and transparent criteria for eligibility of the project beneficiaries and a communication plan approved by PSC and in implementation by Activity Partners in Mauritius. A number of mechanisms could either be strengthened or are yet to be in place for example - public communication and sensitization campaign and communication and collaboration among stakeholders and project partners and dissemination of information and lessons learnt through tailor-made communication products including a project website and short clips and documentary films.
- Principle 3- Marginalized and vulnerable groups. The marginalized and vulnerable may become more vulnerable, economically or otherwise, by not being able to benefit from project interventions and/or having their livelihoods. Safeguard measures include a Livelihood Action Plan and selection of the restoration sites and nurseries through a participatory process where fishermen can provide input on their fishing areas so that these can be avoided if possible.
- Principle 6 - Core labor right. Occupational hazards related to workers and/or scuba divers are noted (e.g. risks of accidents due to mishandling of equipment or material, risk of accidents while planting corals). The main management and mitigation measures associated with OHS risks were to be addressed by: (i) project-level OHS/construction risk matrix and the Diver safety management plan/protocol; (ii) compliance with national and international labor laws and occupational and health safety laws; (iii) adequate protection equipment for workers, training (advanced training for diving activities), insurance and access to medical decompression chamber. Measures implemented are: (i) training manual including safety measures for divers prepared by Activity Partners in Mauritius and Rodrigues; (ii) training sessions for direct beneficiaries on coral biology and ecology, coral restoration basics including coral nursery, coral transplantation, snorkeling, first aid response; (iii) Staff of NGOs have been trained with Advanced Suba Diving courses; (iv) in Mauritius and Rodrigues where partners are working with community members, medical test have been conducted prior to selection of beneficiaries. They have also been trained in EFR and Snorkeling. Reportedly all those working under the project are insured, but the MTR leant that some staff are liable to pay for their own insurance.
- Principle 8 – Involuntary Settlement. Some fishermen at Anse Forbans may feel the voluntary measures set by the Anse Forbans community to restrict fishing activities at their coral restoration site is set unfairly or set without their full consent.

- Principle 9 - Protection of natural habitats. Donor colony may be affected due to mishandling during collection and there is a low risk that some small areas of natural habitat may be disturbed in the construction of nursery sites. The main E&S management tools to manage this risk are the Site Selection Plan combined with E&S Impact Monitoring Plan (template) for Mauritius, Rodrigues and Seychelles.
- Principle 10 - Conservation of biological diversity. In the short term, asexual reproduction (fragmenting) of climate resilient species will be implemented to stabilize and stop the degradation of the restoration sites. Thereafter, the genetic diversity would be increased through sexual reproduction of the transplanted corals.
- Principle 11- Climate Change. Coral bleaching caused by high rise in temperature could affect the coral nurseries and restoration sites. Coral colonies which have resisted past bleaching events are being used for nurseries. In future, when the DNA assessment is completed for heat resilient corals, these species would be used. Temperature loggers have been procured under the project and distributed to APs. The CBASS technique if implemented could also help in assessing thermal stress.

While some environmental measures were highlighted during the project preparation stage, during the implementation stage, a SES consultant was recruited, and the environmental and social safeguards updated in line with revised UNDP policies. In addition to updating the existing ESIA and ESMP, the consultant prepared a Livelihoods Action Plan, Security Plan/Plans in relation to Standard 7 on Labour and Working Conditions which included protocols for diving, Site Selection Plans and Construction Risk plan.

3.4.1 Reporting

Adaptive management changes have been reported by the project management through PSC meetings and quarterly and annual reports and shared with the PSC.

As per UNDP and AF requirements, the project annual workplans and budgets, quarterly progress reports have been prepared and signed on time and to standard. The project has complied with all planning and reporting requirements per UNDP rules and all project records including in terms of cash advances and reporting from Seychelles partners. In terms of reporting to the donor the Inception Workshop Report of the project was prepared following the Inception workshop and submitted within the timeline required to the donor. PPR1 (October 2020-October 2021) and PPR2 (October 2021-October 2022) were completed on time. PPR3 is outstanding, with the delay attributable to PMT staffing issues, and hence a lack of resources to manage and collate the information provided for the report. PPR1 and PPR2 rated the project as Satisfactory overall (with component 3 rated as Moderately Unsatisfactory in PPR2). It is noted that reporting is based on only high-level information being provided by APs in Seychelles, against the project indicators, pending finalization of the revised MOUs. One AP has submitted one annual monitoring report, without including graphs of the data for benthic cover. The other two APs have not submitted their Annual Reports. This is hindering a full understanding of monitoring results and status.

The project is starting to capture lessons learnt through APs reporting at PNCC and through the Regional Technical Workshops and AP Reports (in the case of Mauritius and Rodrigues).

3.4.2 Communications

The project document does not include a regional/national communications and awareness strategy or action plan. However, embedded in the budget and workplan are: (i) Website manager for hosting and monthly maintenance of the website (USD 25,000); (ii) documentary film

development (USD 235,629); (iii) Design, printing and publishing of coral restoration. toolkit/manual (USD 5,000).

Internal project communications need to improve across the board (e.g. between the PMT and APs/NGOs and PDCS and APs). Communication is reportedly last minute and / or late. RSAC members have not been kept informed of the project.

In relation to external project communications, as discussed above, the project website is not yet up and running. Public awareness of the project is considered to be low. However, the project did complete a project branding process, which provided the tools for consistent and branded communications. The UNDP has also invested in self-funded communications[55]

In general, **the project is designed to and has the opportunity to leverage international attention, but this has not yet been capitalized** on. Communication efforts are linked to numerous activities under component 3, which centres on the collation and dissemination of knowledge on coral restoration under the project. The Coastal Science Symposium in May 2024 at the University of Seychelles is an opportunity for APs to present their work and SPGA are planning a coral festival in 2024 to showcase efforts. Other opportunities need to be identified and coordinated by the project.

Each AP is responsible for their own comms, but this has been limited as no budget has been allocated to it. Efforts include: (i) MCSS- numerous posts in Instagram and facebook. In addition, with the help of a voluntary graphic design in Argentina a poster was produced to display at COP28, which was also shared with 2 large catamarans operating in the SAMNP to be on display for their guests; (ii) Nature Seychelles has exposed the project through more than 4 films/documentaries (French and German), around 28 articles, and more than 150 posts on social media. They also run sensitization campaigns in schools; and, (iii) SPGA's work has had some media coverage.

Communicating the socio-economic and physical benefits of coral reef restoration (coastal protection, tourism, increased fisheries) to local government, private organizations and the local community can help unlock new funding avenues for future work.

3.5 Sustainability

The risks cited in the project document have been monitored throughout the project, with discussions of risks facing the project at PSC meetings clearly documented. Of note the project has not rated any risks as 'high'. Medium risks (as presented in PPR2), along with an assessment of their rating, are:

(i) Disagreement amongst stakeholders with regard to demonstration of site selection in Mauritius and Seychelles.
(ii) Capacity constraints of local institutions may limit the ability to undertake the research and interventions in *Seychelles*.
(iii) Lack of community buy-in from local communities may result in failure of intervention sites; Disagreement among stakeholders with regard to roles in the proposed project. This risk needs to acknowledge risks associated with MOUs between MACCE and APs in Seychelles, and could be considered high;
(iv) Current climate and seasonal variability and/or hazard events could delay activities at sea and result in poor results for coral reef restoration. Given the risk pose by El Nino,

[55] https://www.undp.org/mauritius-seychelles?search=coral+restoration

discussed in detail below, and intense weather conditions generally faced by APs, this could be increased to high.

(v) Delays in procurement of technical services and equipment. Given that equipment has now been procured there are no ongoing risks associated with this, but delays in procurement of technical services remain.

(vi) Inhibition of growth and survival of corals in the ocean-based nurseries established in the Saint Anne Marine National Park from sediment disturbance from port extension.

(vii) Covid-19 impact of tourism establishments and co-financing arrangement from hotel and private sectors. Given that tourism sector's recovery from Covid-19 impacts and the project's success in working with the hotel sector, especially in Mauritius, this could be reduced to a low risk.

(viii) Limited staff to conduct pattern and sedimentation surveys and analysis.

(ix) Potential environment, technical, mechanical and structural risk resulting from construction of land-based nurseries in Mauritius.

(x) Covid-19 has impacted procurement of goods and services. The main risk remaining relates to the increase in costs of air travel.

(xi) Price escalation of construction materials for land-based nurseries in Mauritius.

(xii) Delay in activities related to genetic connectivity and thermal resilience studies.

(xiii) Adverse comments or complaints on project activities by organizations or service providers not involved in the project.

There is one risk rated as 'low' – loss of government support may result in lack of prioritization of proposed project activities. This does not appear to reference the delays attributed to the Ministry of Blue Economy, especially around the land-based nurseries, and could be rated as medium. Missing risks relate to human resources and capacity constraints at MOI and AFRC and human resource capacity of APs cited as the main risk to meeting the project's restoration targets.

A fundamental risk emphasized by the project is that of El Nino impacts destroying work across the coral restoration sites. El Nino has heightened the risk of bleaching in 2024[56] and is upper most in the minds of the project partners. The possible impact of El Nino and how the project should respond was a key topic of discussion for the MTR, with two broad views expressed: (i) Do nothing and see what happens, noting that corals that survive will demonstrate resilience; and, (ii) A lot of work and money has been invested, which may all be lost so something needs to be done to mitigate the impact.

The 'do nothing' approach may be the default in **Mauritius** where it is not clear what can be done. It is neither possible to lower nurseries, as they are already working in shallow water with nurseries attached to the ground due to the risk of cyclones, nor feasible to use palm leaves as shade in open water. In **Seychelles** it is possible to lower nursery depth and potentially shade some corals. Adoption of a variety of mitigation approaches would provide information and learning but will only be possible at a very small pilot/ experimental scale.

Some APs are developing a proposal of mitigation measures suitable at their sites, with Nature Seychelles and SPGA known to have submitted a proposal to date.[57] Possible measures include:

(i) Lowering of nurseries

(ii) Stocking nurseries in advance of the summer peak seawater temperatures

[56] March and April are considered to be the highest risk period in Seychelles.

[57] Nature Seychelles propose to pilot shading. SPGA propose several measures including a shading strategy, coral planting at deeper depth and mass outplanting events with local businesses.

(iii) Shading of nurseries and coral restoration sites using shading cloths and/or palm leaves.
(iv) Transplanting early from nurseries as a means of minimizing the damage and tagging the coral transplanted.
(v) Networking with other institutions e.g., Coral Restoration Foundation, which were using some of the techniques.

Regardless of the approach adopted additional monitoring during and after the bleaching event will be important to understand its effects and to identify resilient coral for possible propagation in subsequent years.

Views expressed through the MTR on how the El Nino contingency efforts might be funded included: reallocating project budget, reallocating staff time away from existing coral restoration activities to cover staff cost, and co-financing from the Government.

3.5.1 Financial risks to sustainability

The likelihood of financial resources being available once the AF assistance ends are considered to be **Moderately Likely**. There are a range of potential financing options being explored by the project through project activities and initiatives including the development of business plan (Nature Seychelles), and work with hotels in Mauritius and Seychelles[58]. The objective should be not only to sustain but to upscale the projects outcomes. It is recommended that a sustainability / exit plan is developed ahead of the Terminal Evaluation, which specifies the finances required, potential sources (Government, private sector, donors, sustainable financing mechanisms) and any funding gap.

In **Mauritius**, Eco-Sud plans to integrate the work into other projects, so coral restoration work may continue, but not at the same pace. As reported in PNCC Mauritius March 2023, partners were working on a plan for hotels to adopt some of the table nurseries following project closure and some would be used by AFRC. AHRIM – will hopefully still support hotels to undertake coral reef restoration in front of their lagoons. In Rodrigues it is not clear how the work will continue after the project. One suggestion is that the RRA develop a government sub proposal / budget for consideration by MOF in Mauritius to support on-going restoration work and maintenance of nurseries. Other costs to cover to sustain the project's outcomes include - operation costs of land-based nurseries, on-going survey work to build up time series data at the study sites and for the whole island, maintenance of the equipment provided by the project, estimated at 300,000 MUR every 2-3 years.

In **Seychelles**, sustainability is recognized as a challenge; previous coral restoration project sites in Curieuse were abandoned and every effort is needed to avoid a similar fate for this project's outputs. Coral restoration work needs to be embedded into the work of SPGA, who plan to absorb CRR staff at the end of the project. SPGA have prepared a Research Strategy, for which the long term financing plan is still to be determined. In the **Seychelles** there are a number of complementary projects which will / could play a role in sustaining the outcomes including: (i) GEF7 under UNDP Blue Economy Programme, which has recently started, is supporting moorings in Saint Anne and the restoration work at Ile Cocos will use the project's nurseries at Curieuse. The project has a number of relevant indicators (e.g. hard coral cover, population of key species at pilot sites, % of coral colonies with physical damage); (ii) SeyCCAT's Global Fund for Coral Reef (GFCR) funded project Ocean's Resolve is a 6-year programme which started in

[58] Financing options include: (i) "adopt-a-reef" programs through which hotel clients in coral reef conservation areas sponsor a coral site; (ii) guided tours of nurseries via (glass bottom boats/ snorkelling trips).

January 2024. Among other things this programme will support the implementation of Seychelles' Strategic Action Plan on Coral Reef Conservation and Management (2012-2025) in close collaboration with MACCE, through the establishment of a Seychelles Coral Reef Network (SCRN). The SCRN is intended to foster collaboration and knowledge sharing and to act as a hub for developing public-private partnerships, which are supported through SPGA's Strategic Plan. Ocean Resolve is creating a Blue Investment Arc, in collaboration with the Department of Science Technology and Innovation (DSTI), with a focus on supporting coral positive businesses. It is also supporting an eco-mooring network in Saint Anne; and, (iii) Other complementary projects include - Critical Ecosystem partnership Fund project – Unisey includes Saint Anne is one of their sites; Reef Rescuers Programme/ USAID; MOUs between SPGA and hotels in Marine Parks- e.g., Zil Pasyon.

Critically, for coral restoration to be replicated and upscaled there is a need to see concrete solutions and build business solutions.

3. 5. 2 Socio-economic risks to sustainability:

The coral restoration sites face various risks from local drivers of degradation including unsustainable tourism-related practices such as anchoring of boats, sedimentation and pollution (due to land clearance for agriculture and coastal development) and overfishing, that could potentially jeopardize sustainability of the project's outcomes.

Capacity to sustain and upscale the project outcomes is also an issue. Typically only 1 person from AP/NGO is invited to training (and this may be an international staff member in the case of Seychelles), which risks the loss of capacity within an organization when the one person trained leaves.

Building national capacity is important for sustainability and ownership but attracting more Seychellois (local staff) into coral restoration and ocean conservation work is a challenge. Seychelles rely a lot on international experts and volunteers. While international expertise play an important role in delivering on the project objectives and pushing forward with technical innovations, projects must be designed and executed in a manner that ensures technical transfer of approaches and lessons to local practitioners (e.g. through shadowing, requiring a certain number of local positions). Challenges to recruiting (and retaining) Seychellois staff include lack of interest in diving and trained divers (especially women), uncompetitive salaries in conservation and limited jobs. Solutions include the incorporation of coral reef science and blue economy into university courses and working with the private sector.

SPGA[59] has been engaged in restoration work since 2013 and is central to the sustainability and local ownership of the work in the Seychelles. Capacity building support is needed to build up SPGA's workforce. Since January 2019 SPGA (previously SNPA) have been operating as a financially autonomous organization and are starting to breakeven, leaving them less dependent on project funding. They are activity engaged in developing links with other organizations in the region (such as Kenya and Comoros)

In **Mauritius**, the project aligns with Government policy. Champions exist at the technical level, but administrators at the Ministry of Blue Economy need to take greater ownership and prioritize key project activities (including the land based nurseries) if the project is to meet its targets and

[59] The SPGA is a body corporate under the National Parks Authority order, mandated to promote the participation of government, the public and businesses in conservation work, to protect and manage effectively the ecosystems and biodiversity in designated protected areas which fall under its jurisdiction.

for its outputs to be sustained after the project. Capacity issues and the limited number of staff at the MOI and AFRC are also seen as a risk to the sustainability of project outcomes. MOF support for the project is illustrated through co-financing for the land-based nurseries. The development of the blue economy (including blue biotech) is high on the Government's agenda but development of this sector is quite slow, with a focus to date on fisheries and shipping. In **Rodrigues**, the regional Government welcomes the project and has promoted actions in coral restoration in the past. Government ownership is considered to be strong in the **Seychelles**.

In terms of other stakeholders, the beneficiaries in Mauritius clearly see the benefits of the project and impressive work is underway with the hotel sector. In Seychelles more work is needed to build awareness of stakeholders (boat owners, hotels).

Public / stakeholder awareness in support of the long-term objectives of the project is currently insufficient and lessons learned are only partially documented through the quarterly reports but are not being adequately shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future. There is limited detail around approaches in the Seychelles, limited interaction between AP/NGOs and no integration with regional organizations. In Seychelles, UNDP SGP is working at grassroots with dive companies and schools to embed marine programmes in schools. This could be explored with NGOs such as Wise Oceans/ other school clubs.

3.5.3 Institutional Framework and Governance risks to sustainability

Systems for accountability, transparency and technical knowledge transfer are not fully in place. A key risk in the **Seychelles** is that the revised MOUs between the APs and MACCE are yet to be signed. This has implications for knowledge sharing - a core objective of the project.

Coordination across Government departments is needed to fully realize the benefits of the project and ensure sustainability of its outcomes going forward. For example, in **Mauritius** greater integration with the MOE's 80 million MUR coastal protection programme, which is promoting NbS is recommended. BBMP is under its priority list for rehabilitation.

Enforcement of the MPAs remains a challenge. For example, in Saint Anne anchoring problems are an issue and the SPGA is understaffed and unable to effectively monitor the site. The SPGA are putting in cameras to monitor nurseries and MCSS are reporting infringements directly to them in the meantime to try and address the problem.

The data sharing agreement between GOS and GOM is seen as an important aspect for cross border collaboration especially in the context of the territorial waters and will have far reaching positive implications beyond project life cycle[60]. Once this was finalized and signed, a similar agreement was signed between MACCE and the APs (PNCC- Seychelles, July 2022).

3.5.4 Environmental risks to sustainability:

Environmental risks are high and include potential cyclone damage and El Nino impacts, which could wipe out all the work on the ground. In light of this, the land-based nurseries and

[60] A memorandum of understanding between the Government of Mauritius or the Government of Seychelles and UNDP as the project document and the Standard Basic Assistance Agreement (SBAA) already catered to intellectual property issues.

documentation of methodologies for sea based nurseries are considered absolutely critical outputs of the project.

4 Conclusions & Recommendations

4.1 Conclusions

The project is complex and ambitious. Coral restoration is a highly specialist field and rapidly expanding research topic. The project involves the use of both land-based and ocean-based nursery techniques in two countries, across five islands with six APs/ NGOs working on different timelines, to restore disparate project sites, trialing different nursery and out planting techniques.

The project is of high strategic relevance nationally, regionally, and globally. At the national level the health of coral reefs is tied to the livelihood and wellbeing of communities through its support to fisheries and shoreline protection functions, as well as being a core natural asset central to tourism offerings of both countries. Coral reefs are facing extinction, and the project presents the opportunity to test various coral restoration methods and promote learning.

Project Strategy. The project aims to increase core ecosystem services provided by coral reefs – fish productivity and shoreline protection, through coral reef restoration. However, these indirect benefits will not be possible to measure within the project timeframe. The sustainability of the project's outcomes is therefore critical to meeting project objectives over a longer timeframe.

Of the expected **impacts**, two are considered to be particularly challenging: (i) Improved livelihoods with increased fish landings and access to new job opportunities – it is unlikely that improvement in fish landing will be seen within the project timeframe and linking improvements to livelihoods and new job opportunities is particularly challenging in Seychelles; (ii) A standardized science-based approach and implementation to coral reef restoration in Mauritius, Seychelles and the Western Indian Ocean (WIO) region – this requires completion of science work and analysis of the coral restoration work underway.

The project document has numerous inconsistences, including unbudgeted activities, and an overly complex and burdensome results framework, with 52 indicators, many of which are not considered to be SMART, which complicates project implementation and monitoring. There was also a time lag between project conception and project implementation during which time a lot of parameters changed, notably the change in staff capacity at MOI, who were responsible for many core activities under components 1 and 3.

Progress towards results. Key achievements of the project at mid-term are: (i) the work on the ground by the six dedicated APs/NGOs, despite very challenging working conditions at sea; (ii) equipment secured despite rising costs, COVID 19 related lockdowns and the specialist nature of the equipment; (iii) training of Government partners (e.g. in drone operations and MIKE software); (iv) in Mauritius the training of beneficiaries and the relationships built with hotels; and, (v) in Seychelles, the fact that the APs are largely on track to meet their EOP targets and the valuable experimentation in coral restoration methods being undertaken.

However, many activities are behind a mid-term, and only 19 out of 48 mid-term targets have been achieved (39%) and 15 indicators (28%) are considered not to be on track. External factors, including the first years of the project coinciding with COVID 19 lockdown, which made face to face meeting and field work difficult and considerably slowed down the purchase of equipment

inevitably contributed to delays. However, project specific factors have also caused delays. Of note progress in the two countries is not aligned, with Seychelles starting work on the sea nurseries 1.5 years before the full engagement of the NGOs in Mauritius. The project start-up in Mauritius was delayed due to UNDP requiring the preparation of a comprehensive Environmental and Social Risk Management Plan (ESMP); this delay could have been avoided if the ESMP was prepared at the preparatory stage. Another factor causing delays in Mauritius is the lack of capacity at the MOI. The project design relied on institutions such as AFRC / MOI to deliver core activities such as the land-based nurseries. However, many key experts left at the start of the project and the remaining numbers and capacity were insufficient to meet the demand of the project *and* the regular work and commitments of MOI. MOI's regular work is typically prioritized, with staff diverted to address oil spills (such as Wakashio oil spill in July 2020) and issues arising with boat operators and fishermen. This illustrates the need for staff dedicated to the project. Procurement processes have been slow and staff gaps remain at the MOI.

The MTR rates progress at the objective level as **Moderately Satisfactory.** At the objective level only 2 of the 5 mid-term targets have been achieved. Indicator 3 related to the number of people trained and involved in the establishment, maintenance, and monitoring of successful ocean nurseries for corals has been exceeded. It is unlikely all APs will meet their EOP targets related to the area of degraded sites restored to scale using farmed corals (Indicator 1) or targets related to the number of stakeholders with improved livelihoods due to ***new*** and ***sustained*** employment & business opportunities related to coral restoration activities, if strictly defined, especially in Seychelles.

The MTR rates Component 1 as **Moderately Satisfactory**. For Component 1, 9 mid-term targets have been achieved, 3 are considered to be on track, 6 are not on track and 3 do not have mid-term target but are not considered to be on track to reach their end of project target. It is recognized that the NGOs have made good progress, especially given the late start[61] and work is on a positive trend, albeit with very challenging EOP targets for many which need closer assessment. The main concerns related to Component 1 are: (i) insufficient manpower to meet the end of project targets for the sea-based nurseries; and, (ii) the delays to the land-based nurseries, which are largely administrative.

The MTR rates Component 2 as **Satisfactory**. Of the mid-term targets, 7 have been achieved, 6 are on track, 3 are not on track. End of project outplanting targets are understood to be challenging for both MCSS and SPGA. While Nature Seychelles were on track, they are likely to suffer some delays due to the engine on their boat being stolen in January 2024. Indicators not on track relate to: (i) improved livelihoods due to new employment and business opportunities, which is not clear will be achievable within the project timeframe; (ii) the delivery of Environmental and Social Risk Assessment Reports, which are contingent on an agreement on revisions to the MOUs between MACCE and APs; and, (iii) the challenging increases in the percentage of live coral cover and quality of restoration sites set.

The MTR rates Component 3 as **Moderately Satisfactory**. Of the mid-term targets, 2 are achieved, 7 are on track and 1 has no target at mid-term. Component 3 is intended to ensure that experiences built up through Components 1 (Mauritius) and 2 (Seychelles) contribute to the development of a solid base of knowledge on best practices in the use of coral reef restoration as an adaptation measure *and* that the project develops and shares its knowledge products

[61] The Coral restoration work in Mauritius did not start until October 2021, with the third NGO not on board until March 2022. The area to be outplanted was also increase for NGOs in Mauritius following the co-financing provided by GEF Mainstreaming Biodiversity Project

internationally with particular emphasis on other Indian Ocean states and SIDS. It includes a mix of activities – scientific work to inform site based coral restoration work planned for the start of project and knowledge management and dissemination, which would be expected to be the focus of the second half of the project when results and findings start to emerge. The survey and scientific (genetics) work has been severely delayed (due to delays in securing equipment and capacity issue) and there is a lack of planning and awareness of roles regarding activities related to knowledge management and dissemination. The mid-term review found a low understanding of what Component 3 entails and how different parties are expected to contribute to it.

Project management and adaptive management is rated as Moderately Satisfactory. Some project activities are facing significant delays and the ability of the project to accelerate delivery from the mid-term point is considered unlikely due to current lack of a project management team and administrative bottlenecks. A full-time national project coordinator is now in post in the Seychelles a Finance and Administrative Associate was recruited in February 2024. Project delays are reflected in the underspend at mid-term, which is 39% overall, but at only 28% for component 1 and 34 % for component 3. There have been extensive and persistent delays in disbursements in general, but in particular for APs in the Seychelles, which have caused discontent and cash flow issues for project partners**.** The project is designed to leverage international attention. However, the visibility of the project nationally, regionally, and internationally is low and the opportunity for the project to make an important contribution to the field of coral restoration through knowledge sharing has not yet been capitalized on. In terms of monitoring, many APs / NGOs stated that it is hard to undertake the monitoring *and* to reach the targets given the amount of time needed in the water to complete the coral restoration work. Further, the project's livelihood survey is intended to inform monitoring of numerous socio-economic indicators, but the survey instrument is not appropriately designed. Coordination and collaboration between project partners is limited and should be enhanced going forward to facilitate leaning and capacity building. However, it is noted that the project budget at design did not provide for collaboration between APs/NGOS and there was no budget allocation for the regional technical meetings or for staff exchange visits; therefore, a budget allocation will be required for these activities to continue. It is noted that the project has put in place adaptive measures to address the challenges of the COVID-19 lockdowns and to address the inconsistency in the project document and that it has successfully raised co-financing in both countries to augment project implementation.

Sustainability is rated as Moderately Likely. There are a range of potential financing options being explored by the project through project activities and initiatives including the development of business plan (Nature Seychelles), and work with hotels in Mauritius and Seychelles. This supports the likelihood of financial resources being available once the AF assistance ends. The objective should be not only to sustain but to upscale the project's outcomes. It is recommended that sustainability / exit plan developed ahead of the Terminal Evaluation, which specifies the finances required, potential sources (Government, private sector, donors, sustainable financing mechanisms) and any funding gap. In terms of socio-economic risk, the coral restoration sites face various risks from local drivers of degradation including unsustainable tourism-related practices such as anchoring of boats, sedimentation and pollution (due to land clearance for agriculture and coastal development) and overfishing, that could potentially jeopardize sustainability of the project's outcomes. Capacity to sustain and upscale the project outcomes is also a serious concern. In relation to institutional framework and governance risks systems for accountability, transparency and technical knowledge transfer are not fully in place. A key risk in the **Seychelles** is that the revised MOUs between the APs and MACCE are yet to be signed. This has implications for knowledge sharing - a core objective of the project. Enforcement of the

MPAs remains a challenge. Coordination across Government departments is needed to fully realize the benefits of the project and ensure sustainability of its outcomes going forward. **Environmental risks** are high and include potential cyclone damage and El Nino impacts, which could wipe out all the work on the ground. In light of this, the land-based nurseries and documentation of methodologies for sea-based nurseries are considered absolutely critical outputs of the project. The potential impact of El Nino on restoration areas poses a significant risk for the project, but also offers new learning opportunities for the project.

The MTR ratings and achievements are summarized in Table 11.

Table 11: MTR Ratings and Achievement Summary Table

Measure	MTR Rating	Achievement Description
Project Strategy	N/A – not rated at mid-term	Project design issues have negatively impacted implementation. The project has had to adjust to address inconsistencies in the project document, including unbudgeted activities. The PFR is overly complex and presents a heavy monitoring burden for the project. Many of its 52 indicators are not considered to be SMART. The relevance of the project is however considered to be even higher now than it was when designed given the increased threat facing coral ecosystems in the two countries and globally.
Progress Towards Results	Objective 1: 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, at a larger scale than ever tested in the past. Objective 2: to generate knowledge about effective restoration techniques for dissemination to other SIDS and countries within the wider region **Moderately Satisfactory**	Only 2 of the 5 mid-term targets have been achieved; Indicator 3 related to the number of people trained and involved in the establishment, maintenance, and monitoring of successful ocean nurseries for corals was exceeded in Seychelles while in Mauritius the *end of project* target has been exceeded. In Mauritius, outplanting work will start in 2024 and it is unlikely all APs will meet their EOP targets to restore degraded sites (Indicator 1). Targets related to number of stakeholders with improved livelihoods due to ***new*** and ***sustained*** employment and business opportunities related to coral restoration activities, will also be difficult to meet if strictly defined, especially in Seychelles.
	Component 1: enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius **Moderately Satisfactory**	9 mid-term targets have been achieved, 3 are considered to be on track, 6 are not on track and 3 do not have mid-term targets but are considered not to be on track. It is recognized that the NGOs have made good progress, especially given the late start and work is on a positive trend, albeit with very challenging EOP target for many which need closer assessment. The key concerns are (i) the delays to the land-based nurseries, which are largely administrative, given the importance of these nurseries to the project; and (ii) insufficient manpower to meet the end of project targets for the sea-based nurseries
	Component 2: enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Seychelles	Of the mid-term targets, 7 have been achieved, 6 are on track, 3 are not on track. End of project outplanting targets are understood to be challenging for both MCSS and SPGA. While Nature Seychelles were on track, they are likely to suffer some delays due to the engine on their boat being stolen in January 2024. Indicators not on track relate to: (i) improved livelihoods due to new employment and business opportunities, which may not be

	Satisfactory	achievable within the project timeframe; (ii) the delivery of Environmental and Social Risk Assessment Reports, which are contingent on an agreement on revisions to the MOUs between MACCE and APs; and, (iii) the challenging increases in the percentage of live coral cover and quality of restoration sites set.
	Component 3: Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration **Moderately Satisfactory**	Of the Mid-term targets - 2 are achieved, 7 are on track., 1 indicator has no target set at mid-term. The survey and scientific (genetics) work has been severely delayed (due to delays in securing equipment and capacity issues at MOI) and there is a lack of planning and awareness of roles regarding activities related to knowledge management and dissemination. The mid-term review found a low understanding of what Component 3 entails and how different parties are expected to contribute to it.
Project Implementation & Adaptive Management	**Moderately Satisfactory**	Key concerns are**:** (i) Some project activities are facing significant delays and the ability of the project to accelerate delivery from the mid-term point is considered unlikely due to current lack of a project management team and administrative bottlenecks; (ii) extensive and persistent delays in disbursements; (iii) the visibility of the project nationally, regionally, and internationally is low; (iv) the need for more efficient and effective application of monitoring tools (e.g. monitoring template and livelihood survey); and, (v) lack of coordination and collaboration between project partners. It is noted that the project has put in place adaptative measures to address the challenges of the COVID-19 and to address the inconsistency in the project document and has successfully raised co-financing. Backstopping has been provided by UNDP, given the PMT is currently understaffed.
Sustainability	**Moderately Likely**	There are a range of potential financing options being explored by the project through project activities and initiatives which supports the likelihood of financial resources being available once the AF assistance ends. However more certainty is required, and this should be detailed in an exit plan for the project. In terms of socio-economic risk, the coral restoration sites face multiple risks from local drivers of degradation including unsustainable tourism-related practices such as anchoring of boats, sedimentation and pollution and overfishing, that could potentially jeopardize sustainability of the project's outcomes. Capacity to sustain and upscale the project outcomes is also a serious concern. In relation to institutional framework and governance risks systems for accountability, transparency and technical knowledge transfer are not fully in place. A key risk in the **Seychelles** is that the revised MOUs between the APs and MACCE are yet to be signed. This has implications for knowledge sharing - a core objective of the project. Enforcement of the MPAs remains a challenge. Coordination across Government departments is needed to fully realize the benefits of the project and ensure sustainability of its outcomes going forward. **Environmental risks** are high and include potential cyclone damage and El Nino impacts, which could wipe out all the work on the ground.

4.2 Lessons Learned

Poor project design slows down implementation and places a heavier burden on project management than otherwise would be the case. The project document is in many ways hard to interpret due to the inconsistencies across the written text on activities and outputs and the PFR. Many of the 52 indicators are not SMART and the excessive number of indicators results in a heavy monitoring burden. Project documents need to be clear, concise and internally consistent.

The review of the PFR at the Inception phase did not provide a detailed enough review of the issues and their implications.

Reliance on specific staff members within institutions is a risk. The project design relied heavily on key staff within institutions such as AFRC / MOI without considering the risk to the project (and how this would be mitigated) if critical staff left, which they did.

Alignment of timeline between regional partners. The different start times in Seychelles and Mauritius has had various negative implications and could have been avoided. The lack of alignment at the start of the project has caused confusion and led to unintended inequities between the Activity Partners, not just in terms of delivery timelines - but also in terms of the expected outputs and reporting burden[62]. The discrepancy in start dates stem from project design issues (the fact that APs were named in the Project Document in Seychelles but not Mauritius) and UNDP requiring the preparation of a comprehensive Environmental and Social Risk Management Plan (ESMP), which delayed the start date in Mauritius; this could have been prepared during the project design phase. Without a PMT, the mechanisms were not in place to properly oversee the start of the work in Seychelles. Discussions on revisions to the MOUs are still on-going, which is very time consuming and not good for morale across partners. The benefits of work in the Seychelles, preceding ahead of Mauritius, as they were encouraged to do, is therefore questionable.

Training and capacity building is critical for sustainability of the project's outcomes. The project often only has budget to train one person within an organization. This risks capacity / learning being lost when the trained person leaves. It is also important that priority is given to national staff, and that where international staff are being trained there are processes / requirements for the training to be disseminated to local staff members. The inclusion of more junior staff at meetings and workshops can also allow for career progression and continuity of expertise within an organization.

Site selection for coral restoration needs to be based on scientific studies and an understanding of the socio-economic pressures. Before embarking on coral restoration works it is critical to undertake studies to select the optimal sites for coral restoration. Baseline data such as the physico-chemical properties, current patterns, and ecological factors like the presence of algae and/or predators at the proposed sites are all needed. Modelling should be an integral part of the selection process since it can provide different scenarios and important information on current deviation/alteration, loose algal and sediment movement before setting up the nurseries (i.e., orientation of nurseries, height of nurseries which will determine the number of rope layers which can be incorporated in the nurseries, current pattern which would help determine appropriate sites for women beneficiaries who not comfortable enough to work at high tides or in strong water currents). Site selection should also take into consideration ongoing activities within the project sites including fishing and leisure activities,

A**n integrated approach is critical to the survival of coral restoration efforts**. While the project is being conducted in Marine Protected Areas to ensure the safety of nurseries, they are still facing threats from tourist activities (boat anchoring), overfishing, pollution from land-based

[62] APs in Mauritius signed standard RPAs with UNDP, which include a tightly specified list of deliverables (unlike the Seychelles MOUs). There is a therefore a large discrepancy in reporting requirements between APs – on top of APs in Mauritius also having responsibility for beneficiaries – a design difference – that already increases the administrative burden these NGOs are managing.

activities and development pressures. The survival and sustainability of the coral restoration efforts required strong monitoring and enforcement, which is often limited due to capacity. Working across key ministries who are responsible for both the protection of MPAs and who may also be the cause of possible impacts is important to ensure a strong integrated policy and institutional framework.

Private sector engagement can greatly enhance coral restoration efforts. The project has shown that there is the potential to engage the private sector, especially hotels, in coral restoration efforts. Given the high cost of coral restoration work, innovative ways to finance coral restoration is central to upscaling current efforts.

Lessons and learning should be systematically collected as the project progresses and shared with partners quickly so that learning can be incorporated every step of the way. The project is undertaking a number of experimental approaches, especially in Seychelles, but these are yet to be documented and shared. On-going sharing of experience can help partners to adapt and benefit from emerging knowledge and findings. For example, information on outplanting techniques, thermo-resistant coral species, dealing with issues such as predators, algal blooms, importance of maintaining nurseries (e.g. biofouling and reattaching coral that has become detached) can be shared between stakeholders to ensure the success of the project. Emerging lessons from Nature Seychelles are summarized in Box 3.

Box 3: Emerging lessons – Nature Seychelles

Donor sites:

- Data show that harvesting has not impacted coral cover
- Using multiple donor sites may decrease harvesting pressure, increase genetic variability and increase species

Nurseries

- Small nursery with *Pocillopora* spp. reduce collapses
- Lowering nursery prevents algae overgrowth and exposure to surge
- Fishing line significantly increases health of corals, potentially suitable for broodstock concept
- Survival of *Pocillopora* spp. higher compared to *Acropora* spp.

Outplanting

- Multiple outplant sites mitigates weather limitation
- *Sargassum* spp. Severely impacted the coral frame
- Cement can be frozen to increase productivity
- Preliminary outplant survival success of around 97.9%

Source: Nature Seychelles presentation.

Long term monitoring will be required to assess the impact of the project on fish productivity, linked to food security, and shoreline erosion linked to coastal resilience. This requires resources to undertake the monitoring activities after the project has ended.

Gender considerations. Boat-based and in-water work, including swimming, snorkeling and diving, can be very physically demanding. If female beneficiaries or AP/NGO staff members become pregnant during the project timeframe they should not participate in physically demanding activities and would be unable to dive. To avoid excluding pregnant female beneficiaries and staff, the AP/NGOs would need to adjust their workplans and identify other less physically demanding roles. It is noted that this would have implications on targets and budgets for already overstretched teams.

4.3 Recommendations

Recommendation 1: A 1-year no-cost project extension to December 2027. A one-year extension is considered necessary to complete the land-based nurseries in Mauritius and ensure that component 3 maximizes its potential in terms of collating and disseminating knowledge and learning from the sea and land-based nurseries as a core objective of the project. It is also thought necessary to allow for the anticipated slow down/ delays pending the establishment of the new PMT which will need time to fully understand the project before it can function effectively. The fact that only 25% of the PMT budget has been spent as of September 2023 suggests that budget would be available to cover PMT staff costs through a one-year extension (bearing in mind that a full team may not be needed in final year of the project). Of note, APs in Seychelles are due to complete their tasks by 2025 (nearly 60% of the budget has already been spent under component 2). While component 2 activities may be managed along the existing timeframe, consideration is needed is to how APs can / should support component 3 outputs beyond this timeframe, and how this would be financed.

Recommendation 2: UNDP to expediate the hiring of project staff and ensure backstopping arrangements remain in place until the new PMT is operating effectively. A fully staffed and qualified PMT is considered critical to the effective running of the project. It is recommended that UNDP prioritize the fast track hiring of PMT staff members, and in the meantime set out backstopping arrangements that should remain in place until the new PMT is established ***and*** operating effectively (i.e. fully on-boarded and trained if necessary in UNDP procedures to carry out their role effectively).

Recommendation 3: Address key Project management issues.

- **3a/ UNDP Mauritius, and UNDP Seychelles the PDCS Seychelles urgently need to put in place a payment system which ensures APs and consultants are paid on time**. Extensive and persistent delays in disbursements in general, but in particular in relation to APs in the Seychelles have caused discontent and cash flow issues for project partners. Transparency and communication across the system and strict response times urgently need to be actioned. APs should ensure that they are able to achieve 80% delivery each quarter.
- **3b/ MOUs between MACCE and the APs urgently need to be resolved in Seychelles**.
- **3c/ Mandatory pre audit meetings and exit meetings** should held with the auditors and NGOs/ AP should be available to meet with the auditors. Audit observations should be addressed and the required reporting and documentation maintained

Recommendation 4: Revise indicators and budget, and review project risks.

- **4a/ Indicator revisions.** The project's results framework suffers from a number of inconsistencies and many of the indicators are not SMART. It is noted that the AF does not typically accept changes to the PRF, however a clear explanation of the quality of the indicators being used and whether they are realistic or not should be documented at the mid-term stage to be factored into the terminal evaluation's consideration of the project's achievements. The recommendations of the MTR on the indicators, set out in Section 3.1.1 and Annex 2, need to be formalized by the PSC with the support of the RPM, once in post.[63]

[63] For example, at mid-term, it is proposed that the area to be restored at Anse Forbans is further reduced to 0.05 and Saint Anne increased to 0.45ha.

- **4b Budget revisions**. The MTR has made recommendations on what activities need to be prioritized going forward and possible budget allocations (please refer to Section 3.3.3 and Annex 4). However, the details of this need to be worked out by the RPM/ PMT. The recommendations of the MTR on the budget need to be formalized by the PSC with the support of the RPM, once in post.
  It is recommended that budget is allocated to: (i) an El Nino contingency plan to help Activity Partners pilot experimental approaches to protect coral sites from bleaching, where feasible. To date, two APs have submitted proposals; an urgent decision on these proposals is needed given the imminent risk; (ii) enhanced technical support; (ii) improve collaboration and learning between APs/NGOs; (iii) maximize visibility of the project; and (iv) develop a project exit sustainability plan. A contingency budget to covered unforeseen events such as stolen engines could also be considered. In general, budget reallocations should be focused on learning and dissemination as the project moves into its second half. Potential budget lines from which funds could be reallocated include: Documentary Film Development (USD 235,629), however, it is noted that given the importance of raising the visibility of the project, a clear and agreed plan for the use of these funds needs to be determined; (ii) Coral Reef Restoration Plan (USD 60,700), which is now not seen as a priority.
  4c. Review project risks as discussed in Section 3.5.

Recommendation 5: PMT / Seychelles NPC to work with AP/NGOs at risk of not achieving their end of project coral restoration targets (related to nurseries and sites restored) to identify optimal number of staff / beneficiaries needed to meet realistic targets within current budget allocations[64]. The lack of a sufficient workforce is considered to be the main risk within the project's control to NGOs/APs meeting their targets hence **a** solution needs to be found to retain trained and dedicated staff. Building on the MTR findings, greater clarity is needed on the optimal workforce needed to meet the targets by each AP/NGO, what the coral restoration teams staffing gap is if any, solutions to address the staffing gap (including incentives for beneficiaries in Mauritius, potentially through revisions to contractual agreements at mid-term), and if the additional staff cannot be hired through existing budget allocations realistic targets in terms of fragments planted in the nurseries and outplanted. The solutions will be specific to APs/ NGOs and their sites.

Recommendation 6: Knowledge and learning (Objective 2 & Component 3) elevated, clarified and better communicated to all parties. Lesson emerging from the project need to be shared in a timely manner nationally, between the 2 countries and more broadly. The approaches to share leaning regionally and internationally have not yet been determined and the project should set out an Events and Engagement plan incorporating national, regional and global fora (conferences and meetings) targeted for the dissemination of project's lessons and findings and raising the visibility of the project[65]. The target of participation in 1 regional and scientific international forum by the end of project should be supplemented with attendance at other (non-scientific) meetings to disseminate the finding to practitioners, Governments and potential funders. A good starting point is the Marine and Coastal Symposium to be held at BERI Seychelles in May 2023. Once a list of potential events across the remaining timeframe of the project has been identified, a prioritisation should be made considering budget revisions that may

[64] This is in line with PSC recommendation to discuss the staffing/beneficiary status for the 3 NGOs and whether the budgetary requirements need to be adjusted as community/beneficiary training and involvement is a very important component of the project target.
[65] For example, Reef Futures and the European Coral Reef Symposium were suggested to the MTR.

be needed to enable participation. However, opportunities for co-financing should also be taken into consideration along with the project capitalizing on attendance by Government or other project partners, who can be briefed to deliver a prepared presentation on behalf of the project. The project also needs to clarify papers and briefs to be produced and disseminated, as specified under Objective 2[66] and the division of labour between the CTA and others, including APs, whose inputs are tied to signature of the revised MOU.

Recommendation 7: Clarify and strengthen monitoring approaches and ensure monitoring and reporting systematically contributes to learning. Many APs / NGOs stated that it is hard to undertake the monitoring *and* to reach the targets given the amount of time needed in the water to complete the coral restoration work. Given that the monitoring template is intended to be used as a flexible tool, it is recommended that APs/NGOs agree with CTA a realistic monitoring approach tailored to their circumstances, bearing in mind the link between the monitoring framework and key indicators in the PRF and the ambition to transition to standardized reporting. The livelihood survey is being used to inform a number of indicators and needs to be better adapted, especially in Seychelles, to provide useful information. It is recommended to reconsider the use and framing of the livelihood survey in the context of Seychelles. For Nature Seychelles it could be adapted to elicit information to inform their business plan.

Recommendation 8: Enhance technical support. To ensure strong delivery across all components enhanced technical support is needed. Options for this include: (i) Increased input for CTA (monitoring, coordination with RSAC members); (ii) National technical person to join PMT to offer flexible technical support; (iii) Increased engagement of RSAC through on-line events / webinars to discuss specific issues with APs/NGOs and setting up of a whatsapp group for flexible and rapid dialogue on emerging issues. Although the RSAC has been minimally engaged in the project so far, it is still largely considered to be important and highly relevant and there is interest in it playing more of a role going forward. The RSAC can augment Component 3 delivery by providing technical guidance and increasing visibility through their networks. Involving RSAC members in publications could also be an incentive for more engagement from RSAC members. There is an urgent need to build relationships with members of this group and clarify its modus operandi if it is to have any value going forward.

Recommendation 9: Enhance collaboration across APs and build community of practice in coral restoration. By adopting a regional approach, it was expected that the stakeholders involved would develop technical and scientific partnerships as well as a common understanding that will enable them to promote the use of effective natural solutions in adaptation and disaster risk reduction. There is limited evidence of this happening as yet. It is recommended that the budget is reviewed to facilitate more site visits and exchanges, and that regular (quarterly) on-line meetings are arranged to discuss challenges, findings and lessons. It is recommended that APs / NGOs should be able to directly email the CTA for timely advice copying in the RPM and PDCS (in Seychelles), although issues around the firewall in place between UNDP and APs in Seychelles, would need to be discussed to allow this. In Seychelles, it is recommended that the National Project Coordinator formalizes regular progress calls and a schedule for regular site visits and fosters collaboration between APs.

Recommendation 10: Strengthen communications and visibility – internal and external based on a communications plan. Communication efforts are linked to numerous activities under component 3, which centers on the collation and dissemination of knowledge on coral

[66] Brief on coral restoration financing, climate change resilience, coastal restoration at scale, financial and technical sustainability, stakeholder and/or private sector engagement, women and youth empowerment

restoration under the project. The project to date has been too insular with insufficient communications and visibility at all levels – national, between countries, regionally and globally. Visibility is an important part of political engagement and fund raising and hence the sustainability of the project's outcomes.

- The project website urgently needs to be operationalized as a centralized location for internal and external partners to learn about the project and the knowledge and learning emerging from the project.
- There are mixed views regarding the money allocated to produce a documentary film for the project, with calls for this to be reduced, but without any articulation of the project's communication need and the role that such a film (or series of shorter films) could play in raising the visibility of the project. The PSC need to agree on how much money they think is appropriate to spend on a documentary film and other promotional videos. It is recommended that the PMT / UNDP present some costed options to the PSC to consider. This should consider the benefits of one main film or a combination of complementary shorter films/video clips for different audiences and themes. Such a film could play a core role enhancing the visibility of the project and be available on-line as well as being aired at international events.
- A publications plan is needed going forward and a list of [international] symposiums to be targeted by the project needs to be drawn up and costed.
- Recommendation 10 links to Recommendation 6 that the project explores and budgets for regional and international forums to showcase its work.

Recommendation 11: Address bottleneck in approvals by the Ministry of Blue Economy – Mauritius and increase capacity and staff numbers at MOI.
Turnover of staff at the Ministry of Blue Economy is high and the staff responsible for decision making do not have the necessary technical background or knowledge of the project. A more streamlined decision-making process is urgently needed that relies more on the advice of technical staff at AFRC and MOI. To address the delays in approvals from the Ministry of Blue Economy, it is recommended that more responsibility is placed on the technical staff. They could potentially draft decision briefs, setting out the pros and cons of the decisions to be taken and the justification for recommendations presented for approval by senior officials.

There is a need for more qualified staff at MOI. Given the current lack of internal capacity the MTR concurs with the decision of the PNCC Mauritius September 2023 to contract the assistance of external experts to support the MOI[67]. However, it is noted that procurement is time consuming and there is currently no PMT to support the hiring process (e.g. draft ToRs). The use of a roster for external consultants with the technical expertise required by the project could also help accelerate the hiring process, but take time in themselves to establish.

Recommendation 12: Institute specific oversight and management system for land-based nurseries in Mauritius. The land-based nurseries in Mauritius will be a key output of the project, however they are not on track and every effort is needed to ensure their completion within the project timeframe. The one-year proposed extension to the project (Recommendation 1) has been partly driven by the MTR's consideration of the time needed to complete the land-based nurseries

[67] PNCC Mauritius September 2023 recommended contracted staff to: (i) support current pattern surveys, GIS mapping and modeling over the next 2.5 years; (ii) assist the team with the genetic analysis of corals for propagation in the land based nursey (for 1 year once eth DNA analysis is completed).

in Mauritius, but even with this additional time this will be challenging if these two infrastructure projects continue to be managed under a 'business as usual approach'. Urgent change is needed. The MTR notes the following concerns in relation to the land-based nurseries: (i) the project has been without a RPM since early November 2023 and no-one is currently driving the project; (ii) oversight of the land based nurseries needs a team capable of addressing both technical and project management aspects. The current model of a consultant firm providing technical support to the RPM on the outputs of the firm contracted to design and deliver the land-based nurseries has not been effective and tighter project management is needed; (iii) procurement capabilities within the PMT / UNDP will be critical to the land-based nurseries delivering on time; and, (iv) timely delivery of the nurseries is impossible unless the current delays in approvals and decisions by Ministry of Blue Economy are addressed. The MTR recommends: (i) establishment of a Land Based Nursery Committee chaired by Ministry of Blue Economy and UNDP to oversee the Cost Sharing Agreement, promote information sharing and accelerate decision taking, to meet monthly; (ii) all parties need to agree and adhere to a realistic workplan closely managed by the RPM through weekly progress calls initially, which can become less frequent once progress is stabilised; (iii) RPM to establish a rapid escalation mechanism if deadlines are not met (e.g., PNCC, PNC, MOF as focal point for AF); (iv) decouple decision making process for the two sites - MOI and AFRC, and treat as separate projects so that one project is not in the position to hold the other back; (v) MOI and AFCRC to recruit / assign staff to champion and to operate and manage the land based nurseries and enhance the collaboration and exchange of ideas between the two organizations; and, (vi) Ministry of Blue Economy to ensure approvals are made on time so that work on the land based nurseries can progress and to work more closely with technical staff members to guide their decisions.

Recommendation 13: Continued engagement with private sector is important for the sustainability of the project and creation of blue economy related livelihoods. The work with hotels and the private sector in general should continue to be a focus in the second half of the project.

Recommendation 14: Develop Exit / sustainability plan. It is recommended that an exit plan is developed instead of the Regional Coral Restoration Plan, which is no longer seen as a priority and elements of which are already covered by existing plans. This should be coordinated by the RPM and be prepared ahead of the Terminal Evaluation. The exit plan should include for example, how the outputs of the project will be sustained financially (specifying the finances required, potential sources (Government, private sector, donors, sustainable financing mechanisms) and any funding gap), promote integrated planning among Government agencies and other partners to maximize synergies and opportunities, and provide recommendations on how to enhance regional knowledge/ joint strategic cooperation frameworks between Mauritius and Seychelles.

Recommendation 15: Longer term strategic thinking on how to develop local expertise and capacity in Seychelles. National capacity building is important for sustainability. This is a project issue and to development outcomes and projects in general. Seychelles has one of the lowest unemployment rates in the world and a third of the workforce is made up of expatriate workers. Attracting Seychellois into the conservation sector in general and marine conservation / coral restoration specifically is challenging due to the high demand in other more lucrative sectors. However, Seychelles has the opportunity to be global leaders in this field, building on its established reputation in marine conservation. Led by MACCE and supported by UNDP, in collaboration with other Ministries, NGOs, Universities and the private sector, a systematic long term approach targeted at creating incentives and opportunities is required. This could include: (i) Coral Restoration Tool kit / Manual incorporated into the University of Seychelles curriculum / degree courses; (ii) NGO targets to build local capacity and transfer knowledge built into project design; (iii) engagement with the private sector (including hotels and dive centres) in coral

restoration opportunities; and, (iv) collaboration with other partners such as SIF and Save Our Seas.

Table 11 provides as summary of the MTR Recommendations, indicating the lead / responsible party and timeline.

Table 11: Recommendations Summary Table

No	Recommendation	Responsible party	Completion date / Timeframe
Actions needed to reinforce the initial benefits from the project			
1	A 1-year no-cost project extension to December 2027	UNDP / RPM	Q2 2024
2	Expediate the hiring of project staff. Prioritize the fast track hiring of PMT staff members, and ensure backstopping arrangements remain in place until the new PMT is operating effectively	UNDP / RPM	Q2 2024
3	Address key project management issues. • 3a/ Urgently need to put in place a payment system which ensures APs and consultants are paid on time. • 3b/ MOUs between MACCE and the APs urgently need to be resolved in Seychelles. • 3c/ mandatory pre audit meetings and exit meetings should held with the auditors and NGOs/ AP should be available to meet with the auditors.	UNDP, PDCS	Q1, 2024
4	Revise indicators and budget and review project risks • 4a/ Indicator revisions. • 4b Budget revisions. • 4c Review and update project risk	PMT, PSC	Q1 2024
5	Work with AP/NGOs at risk of not achieving their end of project coral restoration targets (related to nurseries and sites restored) to identify optimal number of staff / beneficiaries needed to meet realistic targets within current budget allocations	PMT, NPC Seychelles	Q3 2024
6	Knowledge and learning (Objective 2 & Component 3) elevated, clarified and better communicated to all parties	PMT SNPC Seychelles	Q2 2024
7	Clarify and strengthen monitoring approaches and ensure monitoring and reporting systematically contributes to learning	CTA, PMT	Q2 2024
8	Enhance technical support	UNDP, PSC	Q2 2024
9	Enhance collaboration across APs and build community of practice in coral restoration	PMT	Ongoing
10	Strengthen communications and visibility – internal and external based on a communications plan	PSC, PMT	Q2 2024
11	Address bottleneck in approvals by the Ministry of Blue Economy – Mauritius and increase capacity and staff numbers at MOI	Ministry of Blue Economy, MOI, UNDP	Q1 2024
12	Institute specific oversight and management system for land-based nurseries in Mauritius	Ministry of Blue Economy, MOF, UNDP	Q1 2024
13	Continue and develop engagement with private sector	PMT, APs	ongoing
14	Develop Exit / sustainability plan	UNDP, PMT	Completed by start of Terminal Evaluation
Recommendations for future programming			
15	Longer term strategic thinking on how to develop local expertise and capacity in Seychelles	MACCE and UNDP	Ongoing

5 Annexes

5.1 Annex 1: MTR ToR (excluding ToR annexes)

United Nations Development Programme
Terms of Reference

TITLE	Individual Contract (IC) – Procurement of consultancy services for an International Expert and Team Leader for the Mid-Term review of the 'Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future' project
COUNTRY	Mauritius and Seychelles
REGION	Africa
DUTY STATION	Home-based with field mission to Mauritius, Rodrigues and Seychelles
CONTRACT TYPE	Individual Contract
DURATION	**35 person-days over 4 months, with 15 mission working days**
STARTING DATE	1st of July 2023
Project Title	UNDP/AF 'Restoring Marine Ecosystem Services by Restoring Coral Reefs to Meet a Changing Climate Future' project

1. Introduction

The "Restoring Marine Ecosystem Services by Restoring Coral Reefs to Meet a Changing Climate Future" project (also known as Coral Restoration project) is funded by the Adaptation Fund (AF). The project benefits the Republic of Mauritius and the Republic of Seychelles through coral restoration activities as well as capacity building programmes and knowledge exchange for the region. The project is implemented under the Direct Implementation Modality (DIM) by UNDP.

Executing partners involved are the Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS) in the Republic of Mauritius with the collaboration of Mauritius Oceanography Institute (MOI), Albion Fisheries Research Centre (AFRC) and Rodrigues Regional Assembly (RRA). In the Republic of Seychelles, the partners are the Ministry of Agriculture, Climate Change and Environment (MACCE), the Seychelles Parks and Gardens Authority (SPGA), the Marine Conservation Society (MCSS) and Nature Seychelles.

This ToR sets out the expectations for the mid-term review (MTR) of the project. For the MTR, a team of one International Consultant and two National consultants– one in Mauritius and one in Seychelles, will be recruited. The International consultant will also act as a Team Leader.
The services of the International Consultant and the two National consultants will be procured separately by the Commissioning Unit which is the Mauritius and Seychelles UNDP Multi Country Office.

2. PROJECT BACKGROUND INFORMATION

Project Summary
The 'Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future' project started implementation in November 2022. The project funding and components are broken down as follows: -

- Project grant from AF : USD 10 M
  - Component 1 : Mauritius – USD 2.5 M
  - Component 2 : Seychelles – USD 2.5 M
  - Regional Component, PMT & Other costs – USD 5 M
- Countries : Mauritius, Rodrigues and Seychelles
- Cost Sharing (Govt of Mauritius) : USD 1.4 M

History of project Implementation

The LPAC meeting was held in December 2019. The project was approved in June 2020 by the AF. The Inception workshop was held in November 2020 when the project officially kick-started. However, activities in Seychelles had already started earlier.

Project Objectives:

Climate change in Mauritius and Seychelles has intensified coral bleaching events and mortality over recent decades. Climate change projections predict that global coral bleaching events will increase in frequency and intensity. The overall objective of the project is to reduce the impact of climate change on local communities and coral reef-dependent economic sectors in the Republic of Mauritius and the Republic of Seychelles by implementing coral reef restoration with thermal tolerant corals as adaptation to climate change.

The proposed project objective will be achieved through the following outcomes.

In Mauritius and Seychelles

i) development of a sustainable partnership and community-based approach to reef restoration,
ii) establishment of coral farming and nursery facilities,
iii) active restoration of degraded reefs;

In both countries

i) improved understanding and knowledge management of using coral reef restoration as an adaptation to climate change,
ii) sharing regionally and globally the experienced learned in sustainable coral reef restoration, and
iii) training to build capacity for long-term sustainable coral reef restoration.

This project is expected to provide an opportunity to upscale initiatives already started by the Governments of Mauritius and Seychelles to restore degraded reefs and improve livelihoods for local communities to ensure long-term benefits to their national economies. The project is divided into three components.

- Component 1: Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius.
- Component 2: Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Seychelles.
- Component 3: Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration.

A cost sharing agreement has also been signed between the UNDP and the MBEMRFS of Mauritius in September 2020 for MUR 59 M (around USD 1.4 M) for the setting up of land-based nurseries at MOI (for asexual propagation of corals) and AFRC (for sexual propagation of corals) and installation of seawater pumping at MOI.

The main stakeholders are of the project are:
In the Republic of Mauritius

(i) Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBEMRFS);
(ii) Mauritius Oceanography Institute (MOI);
(iii) Albion Fisheries Research Centre (AFRC);
(iv) Rodrigues Regional Assembly (RRA);
(v) Ministry of Finance, Economic Planning and Development (MFEPD);
(vi) Ministry of Environment, Solid Waste Management and Climate Change (MESWMCC);
(vii) Ministry of Tourism (MT);
(viii) Reef Conservation;
(ix) Eco-Sud;
(x) Shoals Rodrigues; and
(xi) Association des Hôteliers et Restaurateurs de l'île Maurice (AHRIM).

In Seychelles

(i) Ministry of Agriculture, Climate Change and Environment (MACCE);
(ii) Seychelles Parks and Gardens Authority (SPGA);
(iii) Nature Seychelles;
(iv) Marine Conservation Society of Seychelles (MCSS);
(v) Seychelles Conservation and Climate Adaptation Trust (SEYCCAT);
(vi) The Nature Conservancy; and
(vii) Seychelles Fishing Authority (SFA).

3. MTR PURPOSE

The MTR will:

(iv) assess progress towards the achievement of the project objectives, outcomes and outputs as specified in the Project Document and Project Results Framework.
(v) review alignment of project activities with the indicators and targets in the Project Results Framework and budget and make recommendations to ensure consistency.
(vi) Assess the progress towards Outcomes and Outputs in the Project Results Framework
(vii) Assess early signs of project success or failure with the goal of identifying the proposed the necessary changes to be made to re-set the project on-track to achieve its intended results.

In conducting the above assessment, the impacts of COVID-19 and Ukraine-Russia conflict on the implementation of project activities, timeline and budgetary implications should also be considered.

4. MTR APPROACH & METHODOLOGY

The MTR report must provide evidence-based information that is credible, reliable and useful.
The MTR consultant / team will review all relevant sources of information including documents prepared during the preparation phase (i.e., Project concepts, UNDP Social and Environmental Screening Procedure/SESP, the Project Document, project reports including annual Project Performance Reports (PPRs), project budget revisions, Letter of Agreements (LOAs), Responsible Party Agreements (RPAs), Memorandum of Understanding (MOUs) and other legal documents), and any other materials that the team considers useful for this evidence-based review.

The MTR consultant / team will review the baseline AF Core Indicators/Tracking Tools in the PPRs submitted to the AF annually and the midterm Core Indicators/Tracking Tools that must be completed.

The MTR consultant / team is expected to follow a collaborative and participatory approach[68] ensuring close engagement with the Project Management Team (PMT), government counterparts (including the AF National Designated Authority), the UNDP Country Office(s), the Regional Technical Advisor (RTA), the Chief Technical Advisor (CTA), the Activity Partners, direct beneficiaries, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTR. Stakeholder involvement should include interviews with stakeholders who have project responsibilities, the RTA, CTA, including but not limited to the list highlighted under Section 2 above. Additionally, the MTR consultant / team is expected to conduct field missions to Mauritius, Rodrigues and Seychelles.
The specific design and methodology for the MTR should emerge from consultations between the MTR consultant / team and the above-mentioned parties regarding what is appropriate and feasible for meeting the MTR purpose and objectives and answering the evaluation questions, given limitations of budget, time and data. The MTR consultant / team must use gender-responsive methodologies and tools and ensure that gender equality and women's empowerment, as well as other cross-cutting issues and SDGs are incorporated into the MTR report.

The final methodological approach including interview schedule, field visits and data to be used in the MTR must be clearly outlined in the Inception Report and be fully discussed and agreed between UNDP, PMT and the MTR consultant / team.
The final MTR report must describe the full MTR approach and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

5. DETAILED SCOPE OF THE MTR

The MTR consultant / team will

(i) Project Design: assess progress towards the achievement of the project objectives, outcomes and outputs as specified in the Project Document.

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project objectives, outcomes, and outputs, as outlined in the Project Document.
- Review the relevance of project activities under each component and assess whether the activities provide the most effective route towards expected/intended results. Were lessons from other relevant projects and their success rate properly incorporated into the project design?
- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the participating countries?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, considered during the project design processes?

[68] For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results, 05 Nov 2013.

- Review the extent to which relevant gender issues were raised and addressed in the project design.
- Review the regional components and structures in place of the project for coordination, implementation and reporting.
- If there are major areas of concern in the above, recommend changes for improvement.

(ii) Alignment of project outputs and activities with Project Results Framework and budget

- Undertake a critical analysis of the PRF indicators and targets, assess whether the midterm and end-of-project targets are "SMART" (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project's objectives and outcomes or components and activities clear, practical, feasible and aligned with the Project Results Framework (PRF), budgetary allocations and could be completed within specified time frame and budget?
- Examine if progress so far has led to or could in the future catalyse beneficial development effects (i.e., income generation, gender equality and women's empowerment, improvement in achieving specified SDGs etc...) that should be included in the Project Results Framework and monitored on an annual basis, taking into account the Project Performance Report submitted to AF every year.

(iii) **Progress Towards Outcomes and Outputs Analysis in the Project Results Framework (PRF)**

- Review the PRF indicators against progress made towards the mid-term and end-of-project targets; colour code progress in a "traffic light system" based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as "Not on target to be achieved" (red).

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Delivery	Outcome	Output	Indicator[69]	Baseline Level[70]	Level in 1st PIR (self-reported)	Midterm Target [71]	End-of-project Target	Midterm Level & Assessment[72]	Achievement Rating[73]	Justification for Rating
Objective:			Indicator							
Component 1:			Indicator 1:							
			Indicator 2:							
Component 2:			Indicator 3:							
			Indicator 4:							
			Etc							
Etc.										

Indicator Assessment Key

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved

[69] Populate with data from the Logframe and scorecards
[70] Populate with data from the Project Document
[71] If available
[72] Colour code this column only
[73] Use the 6 point Progress Towards Results Rating Scale: HS, S, MS, MU, U, HU

In addition to the progress towards outcomes analysis:

- Compare and analyse the PPR Results Trackers at the Baseline with the one completed right before the Midterm Review.
- Identify remaining barriers to achieving the project objective in the remainder of the project.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

(iv) Project Implementation and Adaptive Management: Assess early signs of project success or failure with the goal of identifying the proposed the necessary changes to be made to re-set the project on-track to achieve its intended results.

Management Arrangements:

- Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Is the existing coordination structure working satisfactorily? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s)/ Activity Partners and recommend areas for improvement.
- Review the quality of support provided by the AF Partner Agency (UNDP) and recommend areas for improvement.
- Do the Executing Agency/Implementing Partner and/or UNDP and other partners have the capacity to deliver benefits to or involve women? If yes, how?
- What is the gender balance of project staff? What steps have been taken to ensure gender balance in project staff?
- What is the gender balance of the Project Board? What steps have been taken to ensure gender balance in the Project Board?

Work Planning:

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Assess the impact of COVID-19 and Ukraine war on the supply chain and procurement timeline.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Are the in-kind contributions and collaborations from the Responsible Parties towards the project effective?
- Are the human resource allocations to implement the working arrangements functioning properly?
- Examine the use of the Project's Results Framework and Monitoring Plan as a management tool and review any changes made to it since project start.

Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?

- Assess the co-financing from the Government of Mauritius and other funding mobilized under the project by the project team and partners.
- Assess the impacts of COVID-19 and Ukraine-Russia conflict on the implementation of project activities and budgetary implications and provide recommendations to ensure completion of project within the budget and timeframe, and at the same time meeting project objectives.

Project-level Monitoring and Evaluation Systems:
- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?
- Review the extent to which relevant gender issues were incorporated in monitoring systems.

Stakeholder Engagement:
- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?
- How does the project engage women and girls and the vulnerable groups? Is the project likely to have the same positive and/or negative effects on women and men, girls and boys? Identify, if possible, legal, cultural, or religious constraints on women's participation in the project. What can the project do to enhance its gender benefits?

Social and Environmental Standards (Safeguards)
- Validate the risks identified in the project's most current SESP, and those risks' ratings; are any revisions needed?
- Summarize and assess the revisions made since AF Approval to:
  - The project's overall safeguards risk categorization.
  - The identified types of risks[74] (in the SESP).
  - The individual risk ratings (in the SESP).
- Describe and assess progress made in the implementation of the project's social and environmental management measures as outlined in the SESP submitted at AF Approval (and prepared during implementation, if any), including any revisions to those measures. Such management measures might include Environmental and Social Management Plans (ESMPs) or other management plans, though can also include aspects of a project's design; refer to Question 6 in the SESP template for a summary of the identified management measures.

A given project should be assessed against the version of UNDP's safeguards policy that was in effect at the time of the project's approval.

[74] Risks are to be labeled with both the UNDP SES Principles and Standards, and the AF's Environmental and Social Principles: Compliance with the Law; Access and Equity; Marginalized and Vulnerable Groups; Human Rights; Gender Equity and Women's Empowerment; Core Labour Rights; Indigenous Peoples; Involuntary Resettlement; Protection of Natural Habitats; Conservation of Biological Diversity; Climate Change; Pollution Prevention and Resource Efficiency; Public Health; Physical and Cultural Heritage; and Lands and Soil Conservation.

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Steering Committee.
- Assess how well the Project Management Team and partners undertake and fulfil AF reporting requirements.
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

Communications & Knowledge Management:

- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.
- List knowledge activities/products developed (based on knowledge management approach approved at AF).

iv. Project Risk and Sustainability

- Validate whether the risks identified in the Project Document, PPRs and the Project Risk Register are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
- In addition, assess the following risks to sustainability:

Financial risks to sustainability:

- What is the likelihood of financial and economic resources not being available once the AF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?
- Sustainability of project, taking into account the rise in price of several commodities and services following COVID-19 and Ukraine-Russia conflict.

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize sustainability of project outcomes?
- What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained?
- Do the various key stakeholders see that it is in their interest that the project benefits continue to flow?
- Is there sufficient public / stakeholder awareness in support of the long-term objectives of the project?
- Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize sustenance of project outcomes?

Conclusions, Recommendations & Lessons Learned

The MTR consultant / team will include a section in the MTR report for evidence-based conclusions in light of the findings and explain whether the project will be able to achieve planned development objective and outcomes by the end of implementation.

Additionally, the MTR consultant/team is expected to make recommendations to the Project Management Team. Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report's executive summary. The MTR consultant / team should make no more than 15 recommendations in total.

The MTR report will also include a separate section with a concise and logically articulated set of lessons learned (new knowledge gained from the project, context, outcomes, even evaluation methods). Lessons should be based on specific evidence presented in the report and can be used to inform design, adapt and change plans and actions, as appropriate, and plan for scaling up.

The MTR report's findings, conclusions, recommendations and lessons learned need to consider gender equality and women's empowerment and other cross-cutting issues.

Ratings

The MTR consultant / team will include its ratings of the project's results and brief descriptions of the associated achievements in a "*MTR Ratings & Achievement Summary Table"* in the Executive Summary of the MTR report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

Table. MTR Ratings & Achievement Summary Table for (*Project Title*)

Measure	MTR Rating	Achievement Description
Project Design	N/A	
Progress Towards Results	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	
	Outcome 2 Achievement Rating: (rate 6 pt. scale)	

	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
	Etc.	
Project Implementation & Adaptive Management	(rate 6 pt. scale)	
Sustainability	(rate 4 pt. scale)	

6. TIMEFRAME

The total duration of the MTR will be approximately **35 working days over a time period of 4 months starting 1st of July 2023, and shall not exceed five months from when the consultant(s) are hired.**

The tentative MTR timeframe is as follows:

ACTIVITY	NUMBER OF WORKING DAYS	COMPLETION DATE
Document review and preparing MTR Inception Report (MTR Inception Report due no later than 2 weeks before the MTR mission)	5 days home-based	20 July 2023
MTR mission: stakeholder meetings, interviews, field visits to Mauritius, Rodrigues and Seychelles.	15 days mission working days Mauritius – 8 days Rodrigues – 2 days Seychelles – 5 days	5 – 23 August 2023 (including travel between duty stations)
Presentation of initial findings – virtual meeting	1 day home-based	30 August 2023
Preparing draft report (due within 3 weeks of the MTR mission)	10 days home-based	16 September 2023
Finalization of MTR report/ incorporating audit trail from feedback on draft report (due within 1 week of receiving UNDP comments on the draft) (note: accommodate time delay in dates for circulation and review of the draft report)	4 days home-based	30 October 2023

Options for site visits should be provided in the Inception Report.

7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	**MTR Inception Report**	MTR consultant / team clarifies objectives and methods of Midterm Review and workplan	No later than 2 weeks before the MTR mission	MTR consultant / team submits to the Commissioning Unit and ProjectManagement Team
2	**Presentation in restitution workshop at the end of the field mission**	Initial Findings	1 week after MTR mission	MTR consultant / team presents to the Commissioning Unit and Project Management Team

3	**Draft MTR Report**	Full draft report (using guidelines on content outlined in Annex B) with annexes	Within 3 weeks of the MTR mission	MTR consultant / team submits to the Commissioning Unit, for review by RTA, CTA, Project Management Team, PNCC and PSC members
4	**Final Report***	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report	Within 1 week of receiving UNDP comments on draft	MTR consultant / team submits to the Commissioning Unit

*The final MTR report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

8. MTR ARRANGEMENTS

The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project's MTR is the Mauritius and Seychelles UNDP Multi Country Office.

All Deliverables will be approved by RTA and UNDP CO before payments are released.

The Project Management Team will be responsible for liaising with the MTR consultant / team to provide all relevant documents and assistance.

The MTR consultant / team will work out the mission schedule and arrange for their travel (both internal and overseas), stakeholder interviews and field visits.

The International consultant and Team Leader will coordinate with the two National Consultants and ensure high level of delivery.

9. TEAM COMPOSITION

A team of three independent consultants will conduct the MTR as follows:-

(i) One team leader
(ii) One national team expert from Mauritius
(iii) One national team expert from Seychelles

The Team Leader will examine the progress as per Project Document and identify areas in need of updating or improvement given the change in context and propose new avenues for updating the effective project implementation. He/she will be responsible for the overall design and writing of the MTR report. The team experts will assess the relevance, effectiveness, and efficiency of project, project structure, risks to sustainability, extent to which gender equality and social inclusion and human rights aspects have been considered, monitoring and evaluation approaches of the project as well as assess emerging trends with respect to regulatory frameworks, budget allocations, capacity building, work with the Project Management Team in developing the MTR itinerary.

The consultants cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with the project's related activities.

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas:

International Consultant and Team Leader

Education

- A Master's degree in evaluation, international development, public policy, governance or other closely related field (10%)

Experience

- At least 10 years of experience in leading evaluation exercises for marine biodiversity and climate adaptation projects; (20%)
- Competence in adaptive management, as applied to environment projects; (20%)
- Relevant experience with result-based management evaluation methodologies; (15%)
- Experience applying SMART indicators and reconstructing or validating baseline scenarios; (10%)
- Project evaluation/review experiences within United Nations system and Adaptation Fund projects. (10%)
- Experience working in Small Island Developing States. (5%)
- Demonstrated understanding of issues related to gender issues; (5%)
- Fluency in written and spoken English. French is an advantage. (5%)

10. ETHICS

The MTR consultant /team will be held to the highest ethical standards and is required to sign a code of conduct upon acceptance of the assignment. This MTR will be conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluation'. The MTR consultant / team must safeguard the rights and confidentiality of information providers, interviewees and stakeholders through measures to ensure compliance with legal and other relevant codes governing collection of data and reporting on data. The MTR consultant / team must also ensure security of collected information before and after the MTR and protocols to ensure anonymity and confidentiality of sources of information where that is expected. The information, knowledge and data gathered in the MTR process must also be solely used for the MTR and not for other uses without the express authorization of UNDP and partners.

11. PAYMENT SCHEDULE

This is a lump-sum contract and therefore the bidder should include the fees, travel and DSAs in his financial proposal. The payment schedule will be as follows: -

- 20% payment upon satisfactory delivery of the final MTR Inception Report and approval by the Commissioning Unit.
- 50% payment upon satisfactory delivery of the draft MTR report to the Commissioning Unit.
- 30% payment upon satisfactory delivery of the final MTR report and approval by the Commissioning Unit and RTA (via signatures on the MTR Report Clearance Form) and delivery of completed MTR Audit Trail.

Criteria for issuing the final payment of 30%[75]:

[75] The Commissioning Unit is obligated to issue payments to the MTR team as soon as the terms under the ToR are fulfilled. If there is an ongoing discussion regarding the quality and completeness of the final deliverables that cannot be resolved between the

- The final MTR report includes all requirements outlined in the MTR TOR and is in accordance with the MTR guidance.
- The final MTR report is clearly written, logically organized, and is specific for this project (i.e., text has not been cut & pasted from other MTR reports).
- The Audit Trail includes responses to and justification for each comment listed.

12. APPLICATION PROCESS[76]

International consultant will be selected through the roster officer from the Country Support Management Team

Recommended Presentation of Proposal:

a) **Letter of Confirmation of Interest and Availability** using the template[77] provided by UNDP;
b) **CV** and a **Personal History Form** (P11 form[78]);
c) **Brief description of approach to work/technical proposal** of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment; (max 1 page)
d) **Financial Proposal** that indicates the all-inclusive fixed total contract price and all other travel related costs (such as flight ticket, per diem, etc.), supported by a breakdown of costs, as per template attached to the Letter of Confirmation of Interest template. If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

Criteria for Evaluation of Proposal: Only those applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70% and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score who has also accepted UNDP's General Terms and Conditions will be awarded the contract.

Important Note:

Interested offerors above the age of 62: the UNDP Regulations require them, at their own cost, to undergo a full medical examination including X-ray report. Medical evaluation documentation does not need to be submitted with the other requested documents listed above but will be requested should the candidate be chosen.

Approved by:

Commissioning Unit and the MTR team, the Regional M&E Advisor and Vertical Fund Directorate will be consulted. If needed, the Commissioning Unit's senior management, Procurement Services Unit and Legal Support Office will be notified as well so that a decision can be made about whether or not to withhold payment of any amounts that may be due to the evaluator(s), suspend or terminate the contract and/or remove the individual contractor from any applicable rosters. See the UNDP Individual Contract Policy for further details:
https://popp.undp.org/_layouts/15/WopiFrame.aspx?sourcedoc=/UNDP_POPP_DOCUMENT_LIBRARY/Public/PSU_Individual%20Contract_Individual%20Contract%20Policy.docx&action=default

[76] Engagement of the consultants should be done in line with guidelines for hiring consultants in the POPP: https://popp.undp.org/SitePages/POPPRoot.aspx

[77] https://intranet.undp.org/unit/bom/pso/Support%20documents%20on%20IC%20Guidelines/Template%20for%20Confirmation%20of%20Interest%20and%20Submission%20of%20Financial%20Proposal.docx

[78] http://www.undp.org/content/dam/undp/library/corporate/Careers/P11_Personal_history_form.doc

Name:	Maria Benchimol
Position:	Head of Environment, a.i.
Signature:	DocuSigned by: 28B7C1A59A7C43D...
Date:	**13 April 2023**

5.2 Annex 2: Indicator Review

SMART – Specific, Measurable, Attainable, Relevant, Timebound

Purple text – changes made in inception report; Green text – amendments noted in Responsible Party Agreements; Blue text – MTR recommendations

The purpose of the different color texts is to illustrate how the indicators have been refined relative to the original PFR, and the proposed revisions at MTR stage. The project has been assessed against any revision made in the inception report and responsible agreements.

Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
OBJECTIVE 1: 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, AT A LARGER SCALE THAN EVER TESTED IN THE PAST				
1/Targeted degraded sites restored to scale using farmed corals, with *good survivorship and growth rates of the colonies*	Mauritius : 0.075ha (750 m^2) in Mauritius (non-project sites) 0 Ha at BBMP and SEMPA (project sites) Seychelles: 0.5 ha (5.225 m^2) Breakdown by Seychelles activity partner: Nsey – 0.0945ha MCSS – 0.05ha SNPA - 0 ha Total = 0.1445ha	Mauritius: Overall 1.6 Ha in project sites Seychelles 1.25 Ha in project sites Breakdown by Seychelles activity partner: Nsey (Cousin special Reserve): 0.50ha MCSS (Ste Anne Marine Park): 0.25ha SNPA (Curieuse Marine Park): 0.20ha* Total = 0.95ha by mid-term As per RPA[79], Reef Conservation 0.5 ha by July 2024 EcoSud 0.5ha by February 2024 Shoals 0.2 ha by February 2024	At least **3.2 Ha** in Mauritius **2.5 Ha** in Seychelles Nature Seychelles (Cousin SP): 1.00 ha Marine Conservation Society of Seychelles (Ste Anne MP / Anse Forbans): 0.50ha Seychelles Parks and Gardens Authority (Curieuse MP): 1 ha Amendments at Inception: Total = 2.0ha over project cycle[80] Ste Anne Marine National Park: Increase from 0.25 Ha to 0.40 Ha Anse Forbans: Decrease from 0.25 Ha to 0.10 Ha SNPA (CurieuseMP): 0.50ha* As per RPA: Reef Conservation = 1.6 ha by August 2026 Eco-Sud = 1.6 ha by July 2026 Shoals Rodrigues = 1 ha by July 2026 TOTAL = 4.2 ha Proposed revision at MTR: Ste Anne Marine National Park: Increase to 0.45 Ha Anse Forbans: Decrease to 0.05 Ha[81]	Not measurable Indicator refers to good survivorship and growth rates of the colonies. Given the timeline for outplanting, there will be limited time to monitor survival and growth rate within the project timeframe. 'Good' survivorship and growth rates is not quantified This revised figure for Anse Forbans was transmitted to AF along with the 1st PPR. At mid-term, it is proposed that the area to be restored at Anse Forbans is further reduced to 0.05 and Saint Anne increased to 0.45ha (as proposed to the PSC in 2023). Justifications for this are that it is logistically challenging and expensive to transport coral to the site, the MCSS project at Anse Forbans has closed because of COVID so they no longer have a base at the site, and there is no longer a strong community involvement

[79] Following the closure of the UNDP-GEF Mainstreaming Project, additional funds were made available to APs in Mauritius and Rodrigues, which resulted in an increase in targets as per Responsible Party Agreements.
[80] Reductions at Anse Forbans have been compensated by equivalent increase at Ste Anne. Targets revised downwards as SNPA have indicated that targets are unrealistic given the funds available. As per feedback from SNPA, the min. coral colonies per ha is estimated at 40,000 coral transplants with a planting density of 4 coral colonies per m2. Based on the selected restoration technique (as per ProDoc), the cost of using such technique has been estimated to be between UD$ 30,835-1,492,893 yet it is more likely that the cost of such activity in Seychelles could be on the higher end of this scale. To note that MCSS and Nsey are unable to compensate due to financial constraints
[81] Proposed by MCSS given the logistical challenges, additional fuel cost of transporting corals from their nurseries in Ste Anne MNP to Anse Forbans. Benefit is that restored area within Ste Anne MNP will increase, noting that Anse Forban is not a MNP.

Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
				Consolidation of indicators 25 and 40
2/Number of stakeholders with improved livelihoods due to new and sustained employment & business opportunities related to coral restoration activities and/or due to the improved coastal and marine ecosystems supported by the restored corals	0,	At least 200 persons *Seychelles Targets not specified but no change expected* Breakdown by Seychelles activity partner: Nsey: 33 people MCSS: 33 people SNPA: 34 people Total = 100 by mid-term	At least 800 persons *(assumed to relate to Mauritius)* Breakdown for Seychelles: Nature Seychelles: 100 people Marine Conservation Society of Seychelles: 100 people Seychelles Parks and Gardens Authority: 100 people Total = 300 people over project cycle	This relates to indicator 9 (Mauritius) MT 50 /EOP 100 And indicator 29 (Seychelles) MT – 30 / EOP – 60 Intended to be measured through Livelihoods survey, which is problematic. Includes people benefitting indirectly. Not clear indicator achievable in Seychelles
3/Number of people trained and involved in the **establishment, maintenance and monitoring** of successful ocean nurseries for corals	0 5 NGOs trained and involved in the establishment, maintenance and monitoring of successful ocean nurseries for corals (Reef Conservation, Ecomode, Ecosud, Wise Oceans, Action Lagon)	At least 500 [Asumed to relate to Mauritius & Rodrigues] At least 500 for Mauritius and Rodrigues Revised by Seychelles activity partner: Nsey: 5 staff, 6 volunteers and 10 community members MCSS: 4 staff and 5 community members SNPA: 3 staff and 4 Mauritian* volunteers Total = 37 people by mid-term	**Mauritius and Rodrigues:** At least 500 **Seychelles**: Cousin: 6 staffs, volunteers and 10 community members. Ste Anne/Anse Forbans: 4 staff, Communities and 10 Community members Curieuse: 4 staff and 12 rotating volunteers T= 46 **Revised by Seychelles activity partner (Inception Report):** Nsey: 6 staffs, 15 volunteers and 10 community members. MCSS: 4 staff, and 10 community members SNPA: 4 staff and 10 Mauritian* volunteers **Total = 59 people over project cycle**	Note that this relates to people trained This is combination of • Indicator 6 (Mauritius) At least 20 community members for Mauritius 11 for Rodrigues • indicator 27 (Seychelles) – 30 people by MT; 60 EOP • indicator 37 (Seychelles) = EOP for indicator 6 (duplication)
PROJECT OBJECTIVE 2: TO GENERATE KNOWLEDGE ABOUT EFFECTIVE RESTORATION TECHNIQUES FOR DISSEMINATION TO OTHER SIDS AND COUNTRIES WITHIN THE WIDER REGION				
4/Number of research papers on coral reef restoration submitted for presentation at various scientific forums in the WIO and globally, with female scientists' participation in	0	At least 5 female scientists contributed in the production of scientific publication **Revised by Seychelles activity partner at Inception:**	At least 3 papers published At least 5 female scientists contributed in the production of scientific publication **Revised by Seychelles activity partner at Inception:** Seychelles: at least 1 paper published over project cycle	Targets revised at Inception. There are no targets for Mauritius

Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
publication efforts actively supported.		Seychelles: at least 1 female scientist participating in publication efforts by mid term	Seychelles: at least 2 female scientists contributed in the production of scientific publication over project cycle	
5/ Number of "lessons learned" generated and disseminated through various communication channels and knowledge exchange fora on the practical topics relevant to the coral restoration efforts at scale, including 1) coral restoration financing, 2) climate change resilience of the applied techniques, 3) upscaling efforts, 4) financial and technical sustainability, 5) stakeholder and private sector engagement and buy-ins, 6) women and youth empowerment		• At least 1 brief on coral restoration financing • At least 1 brief on climate change resilience • At least 1 brief on coastal restoration at scale • At least 1 brief on financial and technical • sustainability • At least 1 brief on stakeholder and/or private sector engagement • At least 1 brief on women and youth empowerment No Mid-term target	Mid term targets plus: Seychelles: at least 1 brief on climate change resilience Revised by Seychelles activity partner: At least 1 brief on coral restoration financing At least 1 brief on climate change resilience At least 1 brief on coastal restoration at scale	Not clear how this target will be met and dissemination process. This level of detail is not provided in write up of activities Audience should be specified technical or for layman?

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
COMPONENT 1: ENHANCEMENT OF FOOD SECURITY AND REDUCTION OF RISKS FROM NATURAL DISASTERS THROUGH THE RESTORATION OF DEGRADED REEFS IN MAURITIUS					
OUTCOME 1.1: IMPROVED LIVELIHOOD FOR SUSTAINABLE PARTNERSHIPS AND COMMUNITY BASED APPROACH TO REEF RESTORATION					
Output 1.1.1 Coastal communities benefit from improved livelihoods through employment establishing and maintaining coral nurseries and transplantation sites. [Output header better described as related to training and awareness raising. Similar to output 1.1.2] *1.1.1.1 Stakeholder analysis* *1.1.1.2 Training of community members in establishing and maintaining coral nurseries in Mauritius and Rodrigues* *1.1.1.3 Awareness campaign on coral restoration in Republic of Mauritius* *1.1.1.4Training of direct beneficiaries in snorkelling and advance PADI or other relevant diving qualification.*	6/ Number of community members (as identified in Community Action Plan and any other complementary analysis) *trained in establishing and maintaining proposed coral nurseries* (Data disaggregated by community groups, gender and age group), with a particular attention given to increasing female and youth participants/trainees	0 110	At least 20 for Mauritius 11 for Rodrigues Data collected aggregated by sex, age and household status At least 500 for Mauritius and Rodrigues	At least 20 for Mauritius 11 for Rodrigues Data collected aggregated by sex, age and household status At least 500 for Mauritius and Rodrigues	Targets combination of indicators 18 and 20, which should be lower than target in indicator as are specific to people engaged in maintenance & monitoring). Suggest indicator and targets revised to better reflect activities under this output around training and awareness raising. Used to measure indicator 6
Output 1.1.2 Coastal communities benefit from improved livelihoods through increased revenue from alternative work including tourism (glass bottom boat tours, snorkeling and diving trips) 3 indicators for 1 output, align with activities *1.1.2.1 Development of a coral restoration economic and financial strategy.* *1.1.2.2 Establishing partnership agreement with community groups* *1.1.2.3 Livelihood survey to evaluate impact of project on beneficiaries*	7/ Number of coral restoration economic and financial strategies developed for sustainable financing mechanism	0	1 coral restoration economic and financial strategy developed for Mauritius and Rodrigues	1 coral restoration economic and financial strategy developed for Mauritius and Rodrigues	Project reporting similar data for indicator 8
	8/Number of partnership agreement signed for job opportunities	0	at least 1 agreement signed, and new employment opportunities created	at least 2 agreements signed, and new employment opportunities created	
	9/ Number of people benefiting from improved income as result of the project, with particular attention given to increasing beneficiaries from female-headed households.		At least 50 persons (disaggregated by sex, age and household status) by end of project	At least 100 persons (disaggregated by sex, age and household status) by end of project	Links to 1 & 2 but relates to alternative livelihoods – not to training. Met through employment of beneficiaries by APs. Difficult to measure as APs facing difficulties with Livelihood surveys *Not clear of intended to distinguish between livelihood from coral restoration activities and other means*
OUTCOME 1.2: CORAL FARMING AND NURSERY FACILITIES ESTABLISHED AT A SUFFICIENT SCALE FOR MORE CLIMATE CHANGE RESILIENT CORALS					

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
Output 1.2.1 Donor coral colonies of appropriate species (resilience, maintaining genetic diversity) available at sufficient scale (quantity, time, intervals etc.) for propagation in nurseries *Technical assessment and selection of resilient coral species. (1.2.1.1) Identification of donor sites (1.2.1.2) Survey for identification of ocean-based nurseries (1.2.1.3) [being conducted by MOI and relates to Output 1.2.2 – indicator 13]*	10/ Number of coral species for propagation based on resilience and genetic diversity identified.	none	Coral species identified and validated by the PSC/RSAC	Coral species identified and validated by the PSC/RSAC	Indicator not SMART – does not specify number of coral. Further, it is not appropriate to have PSC validate species identification as specified; this requires a coral taxonomic expert to support coral identification and / or confirmation. It is intended that this will now be done by the RSAC?
	11/ Number of donor sites with locally threatened species (Mauritius & Rodrigues) identified	None	at least 2 donor sites identified	at least 2 donor sites identified	
	12/ Percentage of high thermal tolerance corals collected from donor sites for propagation in nurseries.	0%	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor site	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor site	Target reflects standard best practice guidance – it is not a target. Activity Partners in Seychelles consistently report "not more than 10% of each donor coral colony was collected". Further, target is not relevant to some Activity Partners who are collecting and using corals of opportunity (i.e., pieces of already broken coral found loose on the seafloor), while other Activity Partners are wild harvesting corals from donor sites. Inconsistency between Indicator 10 "resilience", Indicator 11 "locally threatened" and Indicator 12 "high thermal tolerance". These should be consistent (or considered as equivalent) Proposed alternative targets include: "Donor coral colonies [tagged] show 0% subsequent mortality [or conversely 100% survival] during the 12 month post-harvesting"
Output 1.2.2 Reports on coral reef status, water quality, and other key environmental and social parameters for potential nursery sites	13/ Number of survey for identification of nursery sites (Mauritius and Rodrigues)	None	3 Reports on coral reef status, water quality, current patterns/flushing and other key environmental and social parameters for potential nursery sites produced	6 Reports on coral reef status, water quality, current patterns/flushing and other key environmental and social parameters for potential nursery sites produced	

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
1.2.2.1.Monitoring of sea water quality and other key environmental parameters at donor and nursery sites *1.2.2.2 Carrying out the Environmental and Social Impact Monitoring.*	14/ Number of Environmental and Social Monitoring surveys carried out	0	3 surveys by midterm, as per ES Risk Assessment	6 surveys by end of project, as per ES Risk Assessment	
Output 1.2.3 A land-based nursery and 2 or more ocean nurseries established and maintained on a regular basis There are 6 indicators for 1 output – covering specific targets for Mauritius & Rodrigues / sea based & land based nurseries] *1.2.3.1 Setting up of a large-scale land-based nursery at MOI* *1.2.3.2Setting up, populating and maintenance of 100 table nurseries and 100 multi-layered rope nurseries in BBMP* *1.2.3.3 Setting up, populating and maintenance of 50 table nurseries and 40 multi-layered rope nurseries in SEMPA*	15/ Number of Land based nursery established and operational	0	One land-based nursery established and operational	One land-based nursery established and operational	
	16/ Number of infrastructures for nursery seeding from sexual reproduction (Mauritius) established	Non-existent	one Infrastructure established	one Infrastructure established and operational	Indicator not very clear, but taken to refer to nursery at AFRC The indicator above is for asexual coral propagation at MOI and at AFRC they will do sexual reproduction.
	17/ Number of ocean-based nurseries established and operational in Mauritius	9 nurseries currently operational (AFRC, Ecomode, Wise Oceans, Ecosud, UoM)– different institutions are using different techniques with different no of fragments	1 new ocean-based nursery established and operational with 100 basal tables (approx. 20k fragments.), 100 multi-layered ropes nursery units (approx.. 100k fragments) Ecosud – 100 rope and 50 table nurseries by February 2023 as per RPA	1 new oceanbased nursery established and operational with 100 basal tables, 100 multi-layered ropes nursery units	
	18/ Number of community members involved in the maintenance and monitoring of new ocean-based nurseries in **Mauritius**	0	At least 20 community members involved	At least 20 community members involved	Targets for indicator 6 combines indicators 18 & 20. It is appropriate to have an indicator for the number of community members trained (indicator 6), and the number of community members involved in the maintenance and monitoring (18 & 20), as not all of the community members trained stay on and assist with the maintenance. However, you would expect target for 6 to be higher.
	19/ Number of ocean-based nurseries established and operational in **Rodrigues**	No sea-based nursery is currently operational	1 ocean-based nursery established and operational with 40 multilayered ropes nursery unit	1 ocean-based nursery established and operational with 40 multilayered ropes nursery unit	

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
			Multi layered rope nurseries and table nurseries as per RPA		
	20/ Number of community members involved in the maintenance and monitoring of seabased nurseries in Rodrigues	0	At least 11 community members fully involved	At least 11 community members fully involved	The same targets as Indicator 6, which is specific to training. Either needs to be refined or removed. AP are reporting same data for these indicators
Output 1.2.4 Stock of farmed corals available for transplantation *1.2.4.1 collection of coral fragments cultures in land-based nurseries and ocean-based nurseries in Mauritius and Rodrigues*	21/ Number of coral fragments under culture in **land-based nursery** (Mauritius)	0	7,000 coral fragments (including resilient species and locally threatened coral species)	15,000 coral fragments (including resilient species and locally threatened coral species)	
	22/ Percentage of coral polyps successfully settled in situ	0%	1.5% of polyps settled from each spawning. (approximately 1500 recruits per year)	1.5% of polyps settled from each spawning. (approximately 1500 recruits per year)	A simpler indicator would be "Number of corals propagated through sexual reproduction" This is achievable once the land-based nursery is constructed, but perhaps too specific, because there will be two land-based nurseries one focused on asexual production, the other on sexual production.
	23/ Number of coral fragments under culture in new **sea-based nurseries** in Mauritius	0	n/a	120,000 fragments	No mid-term targets as will only be measurable in second half of project. This will be the output from the ocean-based and land-based nurseries combined
	24/ Number of coral fragments under culture in **sea-based nurseries** in Rodrigues	0	n/a	40,000 fragments for multi-layered rope nursery unit Multi layered rope nurseries and table nurseries as per RPA	As above the EOP target is considered to be an overestimated and needs to be revised down. Not realistic
OUTCOME 1.3: THE HEALTH OF DEGRADED REEFS RESTORED, THROUGH ACTIVE RESTORATION WORK, MAINTENANCE AND MONITORING EFFORTS, LEADING ULTIMATELY TO GREATER PROTECTION OF SHORE FROM FLOODING AND STORM DAMAGE					
Output 1.3.1: Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from erosion. *1.3.1.1 Transplantation of farmed corals at restoration sites in Mauritius and Rodrigues* *1.3.1.2 Part of the spatio-temporal*	25/ Areas of site successfully restored using farmed corals of resilient species in Mauritius and Rodrigues	1,600 m2 restored with 6,100 aqua-cultured coral colonies (i.e. 400 m2 at La Gaulette, 350 m2 at Quatre Soeurs, 300 m2 at Bel Ombre, 350 m2 at Grand Gaube, 100 m2 in Grand Port and 100 m2 in Trou aux Biches)	1.2 Ha in Mauritius 0.3 Ha in Rodrigues As per RPA, 0.5ha Reef Conservation by July 2024 0.5ha EcoSud by February 2024 0.2ha Shoals by February 2024	2.5 Ha in Mauritius and 0.7 Ha in Rodrigues As per RPA, At least 1.6ha Reef Conservation by August 2026 At least 1.5ha EcoSud by July 2026 At least 1ha Shoals by July 2026	Overlap with indicator 1 Shoreline protection is just assumed as the result of restoration and it will only be possible to determine several years after plantation of corals. During project implementation it will only be possible to capture baseline data.

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
study of the coast and restoration site in Mauritius and Rodrigues.					
Output 1.3.2 Recovery of fish population and other reef associated fauna and flora, leading ultimately to improved food security in Mauritius and Rodrigues. [phrased as an outcome – output could be phrased more around monitoring outputs] *1.3.2.1 Monitoring and maintenance of the restoration sites* *1.3.2.2 Monitoring of the restoration site for water quality, live coral cover, fish and other fauna and flora density.* *1.3.2.3 Updating the inventory of the corals in Mauritius and updating the booklet describing the corals of Mauritius and Rodrigues.*	26/ percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment, fish biomass, fish diversity and fish catch amongst others)	% live coral: NA Fish population and fish catch: NA	n/a	at least 10 % increase in live coral cover, fish density and diversity.	Not considered Achievable or Measurable Baseline data missing Fishing is not permitted (e.g., Blue Bay Marine Park in Mauritius). Hence fish catch is not an appropriate indicator for use in these Project sites. Fishing is permitted in Grand Port Fishing Reserve surrounding BBMP and in SEMPA in Rodrigues.
COMPONENT 2: ENHANCEMENT OF FOOD SECURITY AND REDUCTION OF RISKS FROM NATURAL DISASTERS THROUGH THEN RESTORATION OF DEGRADED REEFS IN THE SEYCHELLES					
OUTCOME 2.1 IMPROVED LIVELIHOOD FOR A SUSTAINABLE PARTNERSHIP TO CORAL REEF RESTORATION					
Output 2.1.1 Coastal communities benefit from improved livelihoods through employment establishing and maintaining coral nurseries and transplantation sites. *[phrased as an outcome. Outptut is around training and awareness raising]* *2.1.1.1 Training of community members in establishing and maintaining coral nurseries 2.1.1.2 Awareness campaign in Seychelles on coral restoration.*	27/ Number of people *trained* in establishment and maintenance of coral nurseries (Data disaggregated by community groups, gender and age group), with a particular attention given to increasing female and youth participants/trainees	0	At least 30 people ~~by end of project~~ As per Inception Report: Nsey: 15 people MCSS: 12 people SNPA: 3 people*	At least 60 people by end of project Breakdown by Seychelles activity partner: Nsey; 30 people MCSS: 26 people SNPA: 4 people*	Overlap with 3 Although total is 46 in indicator 3.

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
2.1.1.3 Scuba training of volunteer students.					
Output 2.1.2 Coastal communities benefit from improved livelihoods through increased revenue from alternative work including tourism (glass bottom boat tours, snorkelling and diving trips) [phrased as outcome] *2.1.2.1 Development of a Buisiness Plan and update of MPA strategic plan.* [PPR mixes indicators and targets]	28/ Number of sustainable financing mechanisms for the maintenance and monitoring of coral restoration activities with recommendations	Draft business plan	1 Business plan produced including marketing & development of 1 product, at least 1 MOUs and new employment opportunities created Breakdown by Seychelles activity partner: Nsey: 1 Business plan produced (including marketing & development of 1 product), and at least 1 MOUs by mid-term	1 Business plan produced including marketing & development of 2 products, at least 2 MOUs and new employment opportunities created Breakdown by Seychelles activity partner: Nsey: 1 Business plan produced (including marketing & development of 2 products), at least 2 MOUs and new employment opportunities created over project cycle.	Relates to NS Linkage between output / indicator and the target not totally clear. Assume 'products' / MOUs relate to sustainable financing mechanisms/
	29/ Number of stakeholders with improved livelihoods due to new employment & business opportunities, with particular attention given to increasing beneficiaries from female-headed households.	0	At least 30 people by end of project (Data disaggregated by community groups, household status, gender and age group) Breakdown by Seychelles activity partner: Nsey: 15 people MCSS: 12 people SNPA: 3 people	At least 60 people by end of project (Data disaggregated by community groups, household status, gender and age group) Breakdown by Seychelles activity partner: Nsey; 30 people MCSS: 26 people SNPA: 4 people	Refers to alternative livelihoods not training. Feeds into 2 & 3 Same targets as indicator 27, which relates specifically to training May not be measurable
OUTCOME 2.2 CORAL FARMING AND NURSERY FACILITIES ESTABLISHED AT A SUFFICIENT SCALE FOR MORE CLIMATE CHANGE RESILIENT CORALS					
Output 2.2.1 Donor coral colonies of appropriate species (resilience, maintaining genetic diversity) available at sufficient scale (quantity, time, intervals etc.) for propagation in nurseries *2.2.1.1 Technical assessment and selection of resilient coral species*	30/ Number of coral species for propagation based on resilience and genetic diversity identified *2.2.1.1 Technical assessment and selection of resilient coral species*	Coral species selected during previous Reef Rescuers Project (Nature Seychelles) based on survival from 1998 El Nino Lessons learned from other partner/	Coral species identified and validated by the Project Steering Committee Revised by Seychelles activity partner:	Coral species identified and validated by the Project Steering Committee Revised by Seychelles activity partner:	Not specific Not appropriate for PSC to validate - unless coral taxonomist is on the PSC

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
2.2.1.2 Identification of donor sites *2.2.1.3 Survey for identification of sea based nurseries*		Documentation on survival rates of coral species	1 Coral species identified in Seychelles by mid-term and validated by the PSC/RSAC	1 Coral species identified in Seychelles during project cycle and validated by the PSC/RSAC	
	31/ Number of donor sites with resilient and resistant coral species identified	2 Donor sites identified and used for previous Reef Rescuers project (Nature Seychelles)	At least an additional donor site identified in Cousin island, Ste Anne, Cerf Islands and Curieuse/Praslin area. Breakdown by Seychelles activity partner: Nsey: 1 donor site MCSS: 1 donor site SNPA: 1 donor site Total = 3 donor sites identified by mid-term	At least an additional donor site identified in Cousin island, Ste Anne, Cerf Islands and Curieuse/Praslin area. Breakdown by Seychelles activity partner: Nsey: 1 donor site MCSS: 1 donor site SNPA: 1 donor site Total = 3 donor sites identified over project cycle*	
	32/ percentage of climate resilient coral collected from donor sites for propagation in nurseries	0%	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor sites	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor sites	**See Indicator 12**
Output 2.2.2 Reports on coral reef status, water quality, and other key environmental and social parameters for potential [sea based] nursery sites *2.2.2.1 Monitoring of sea water quality and other key environmental parameters at donor and nursery sites.* *2.2.2.2 Carrying out the Environmental and Social Impact Monitoring.*	33/ Surveys for identification of nursery sites including parameters suitable for maximized coral growth	1 nursery site at Cousin Island; 1 nursery site at Curieuse Island; 1 nursery site at Ste Anne/Ile aux Cerf	3 Nursery sites of different size operational Breakdown by Seychelles activity partner: Nsey (Cousin): 1 nursery site MCSS (Sainte-Anne MP): 1 nursery site SNPA (Curieuse): 1 nursery site Total = 3 nursery sites operational by mid-term	3 Nursery sites of different size operational Revised by Seychelles activity partner: Nsey (Cousin): 1 nursery site MCSS (Sainte-Anne MP): 1 nursery site SNPA (Curieuse): 1 nursery site Total = 3 nursery sites operational over project cycle	Output refers to reports, indictor refers to surveys (being conducted by MOI) and targets go beyond this to the nurseries being operational. Establishment of sea nurseries also reported under indicators 36 and distinction between the 2 is not clear

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
	34/ Number of Environmental and Social Risk Assessment Reports	0	3	6	
Output 2.2.3 A land-based nursery established, and 2 or more ocean nurseries are established and maintained on a regular basis *2.2.3.1 Setting up of a land-based nursery on Praslin* *2.2.3.2 Setting up, populating and maintenance of ocean nurseries (midwater rope type)*	35/ Number of **land-based** nursery established and operational	2 small scale land nurseries at Beau Vallon (200 fragments) and Anse Forbans (100 fragments)[82] Anse Forbans site capacity not fully viable due to Covid-19 and closure of hotel	One additional land-based nursery established and operational at **Cousin Island** Inception report – Praslin Revised by Seychelles activity partner: Nsey (Praslin)*: 1 land-based nursery set up by mid-term	One additional land-based nursery established and operational at **Cousin Island** Inception report – Praslin	The clarification that the Nature Seychelles' Land based nursey would be adjacent to their Centre for Ocean Restoration, Awareness and Learning (CORAL) building on Praslin Island was communicated to the AF through the 1st PPR and via email.
	36 / Number of **ocean-based** nurseries established and operational	Previous experience installing & maintaining ocean nurseries; midwater rope nurseries still operational: Existing ocean-based nurseries: in Curieuse, Ste Anne/Ile aux Cerfs.Beau Vallon, and Cousin.	No target in pro doc Inception Report Nsey (Cousin): 5 new ocean nurseries MCSS (Ste Anne*): 4 new ocean nurseries. SNPA (Curieuse); 5 new ocean nurseries; **Total = 14**	Cousin: At least 10 new ocean nurseries; Curieuse: 20 new Nurseries; St Anne: 8 new Nurseries. **Total = 38**	Links with 33 not clear

[82] Anse Forbans site capacity not fully viable due to Covid-19 and closure of hotel (Inception Report)

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
	37/ Number of people involved in the maintenance and monitoring of new land and ocean-based nurseries	Reef Rescuers project: Prior team of 3 permanent staff and 35 rotating volunteer scientific divers. Current team of 2 MCSS: 3 project staff and volunteers	Cousin: 6 staffs, volunteers and 10 community members. Ste Anne/Anse Forbans: 4 staff, Communities and 10 Community members Curieuse: 4 staff and 12 rotating volunteers **Inception Report:** Nsey: 5 staff, 6 volunteers and 10 community members MCSS: 4 staff and 5 community members SNPA: 3 staff and 4 Mauritian* volunteers **Total = 37 people**	Cousin: 6 staffs, volunteers and 10 community members. Ste Anne/Anse Forbans: 4 staff, Communities and 10 Community members Curieuse: 4 staff and 12 rotating volunteers **Inception Report:** Nsey: 6 staffs, 15 volunteers and 10 community members. MCSS: 4 staff, and 10 community members SNPA: 4 staff and 10 Mauritian* volunteers **Total = 59 people**	Duplication with indicator 3
Output 2.2.4 Stock of farmed corals available for transplantation *2.2.4.1 Collection of coral fragments cultures in land-based nursery in Praslin and ocean-based nurseries in Ste Anne, Cousin and Curieuse Islands*	38/ Number of coral fragments under culture in **land-based** nursery	0	NS: At least 500 corals growing in the landbased nursery derived from sexual and/or sexual reproduction	NS: At least 1,000 corals growing in the landbased nursery derived from sexual and/or sexual reproduction	
	39/ Number of coral fragments under culture in **new ocean** nurseries	Past Reef Rescuers Project by Nature Seychelles grew 40,000 corals in ocean-based nurseries; at Cousin Island nursery site. Other: cultured corals in Curieuse (~2000 fragments), Ste Anne/Ile aux Cerfs (450 fragments), and Beau Vallon (400 fragments)	Cousin: at least 25,000 corals Curieuse: at least 20,000 Ste Anne: at least 6,000 Total: 51,000. Revised by Seychelles activity partner: Curieuse: at least 12,500 Total: 43,500 coral fragments by mid-term	Cousin: at least 50,000 corals Curieuse: at least 40,000 Ste Anne: at least 12,500 Total: 102,500. Revised by Seychelles activity partner: Curieuse: at least 25,000* Total: 87,500 coral fragments over project cycle	
Output 2.3.1 Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from erosion	40/ Area of site successfully restored with nursery grown corals	Previous experience restoring a degraded reef with 25,000 nursery grown corals	Cousin: At least 0.5 Ha of degraded reef Curieuse: 0.5 Ha over project life cycle	Cousin: At least 1 Ha of degraded reef Curieuse: 1 Ha over project life cycle	Duplication with indicator 1

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
2.3.1.1 Transplantation of farmed corals at restoration sites in Curieuse Island, Cousin Island, Ste Anne Island and Anse Forbans		in the Reef Rescuers project covering 0.5 Ha	Ste Anne: 0.1 Ha over project life cycle Anse Forbans: 0.1 Ha over project life cycle Total: 1.2 Ha Breakdown by activity partner: Nsey (Cousin special Reserve): 0.50ha MCSS (Ste Anne Marine Park): 0.25ha SNPA (Curieuse Marine Park): 0.20ha* Total = 0.95ha	Ste Anne: 0.25 Ha over project life cycle Anse Forbans: 0.25 Ha over project life cycle Total: 2.5 Ha Breakdown by activity partner: Nsey (Cousin SP): 1.00ha MCSS (Ste Anne MP / Anse Forbans): 0.50ha SNPA (Curieuse MP): 0.50ha* Total = 2.0ha over project cycle	
	41/ Number of people involved in cementing corals to the degraded reefs and monitoring restoration effects	Prior experience applying cementing techniques during the Reef Rescuers project: Cousin: 3 staff, 2 divers and 35 rotating volunteers SNPA: 4 staff and volunteers; MCSS: 3 staffs and volunteers	Cousin: 4 staff + volunteers rotating every 3 months or as needed SNPA: 4 staff and rotating volunteers MCSS: 4 staffs and volunteers Revised by Seychelles activity partner: Nsey: 5 staff, 6 volunteers and 10 community members MCSS: 4 staff and 5 community members SNPA: 3 staff and 4 Mauritian* volunteers Total = 37 people by mid-term	Cousin: 4 staff + volunteers rotating every 3 months or as needed SNPA: 4 staff and rotating volunteers MCSS: 4 staffs and volunteers Revised by Seychelles activity partner: Nsey: 6 staffs, 15 volunteers and 10 community members. MCSS: 4 staff, and 10 community members SNPA: 4 staff and 10 Mauritian* volunteers Total = 59 people over project cycle	Not always relevant. Not all APs using cement.
Output 2.3.2 Recovery of fish population and other reef associated fauna and flora, leading ultimately to improved food security in Seychelles [Phrased more as outcome]	42/ percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment,	Percentage cover of live coral: --Curieuse 19% cover --Anse Forbans < 5%	at least 10 % increase in live coral cover, fish density and diversity. **Inception Report update:**	at least 10 % increase in live coral cover, fish density and diversity. **Inception Report update:**	Not realistic for some partners - requires specific equipment and training, which are not budgeted for.

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
2.3.2.1 Monitoring and maintenance of the restoration sites *2.3.2.2 Monitoring of the restoration site for water quality, live coral cover, fish and other fauna and flora density.*	fish biomass, fish diversity and fish catch amongst others)	-- Ste Anne/Cerf 49% Average fish population per m^2 at Ste Anne is 0.307. no data available for other sites **Inception report update:** Percentage cover of live coral: --Cousin < 10% cover (new data) --Anse Forbans < 5% (no change) -- Ste Anne/Cerf <10% (reduced) --Curieuse 19% cover* Average fish population per m2 at Ste Anne is 0.307. no data available for other sites	Cousin: at least 5% increase in coral cover by mid term Ste Anne: at least 5% increase in coral cover by mid term	Cousin: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle. Ste Anne: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle. Anse Forbans: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle. Curieuse: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle.	Finalization of MOUs is hindering a full understanding of monitoring results and status. Recovery / increase of fish populations linked to improved food security, which is core objective of project (and thus measured at objective level). This indicator is more focused on the setting up and testing of standardized monitoring approaches and updating baseline)
COMPONENT 3 KNOWLEDGE MANAGEMENT AND SHARING, TRAINING AND SENSITIZATION TO BUILD REGIONAL CAPACITY FOR SUSTAINABLE REEF RESTORATION					
Outcome 3.1 Improved understanding and knowledge management of use of reef restoration as an adaptation measure					
Output 3.1.1 Comparative review and analysis of coral restoration initiatives in the region and globally, with gaps in knowledge identified *[3.1.1.1 Comprehensive review of coral reef restoration in the region and globally.*	43/ Comprehensive review of coral reef restoration in the region and globally undertaken	None	Draft Report/Paper on comprehensive review of coral reef restoration in the region and globally	Report/Paper on comprehensive review of coral reef restoration in the region and globally finalised and validated by the Project Steering Committee	

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
Output 3.1.2 Based on past and ongoing coral restorations efforts undertaken by the project and others, science-based best practice and methodologies (e.g. factors determining success in coral restoration are known; costeffective approaches, etc.) developed, constraints and challenges identified and lessons learned documented. *[3.1.2.1 Development and publishing of methodology/guidelines for coral restoration in Mauritius and Seychelles, based on past restoration efforts, best available science and practices.]*	44/ Methodologies for coral restoration in Mauritius and Seychelles developed, based on best available science and practices	none	Draft Coral restoration methodology and good practices guide developed	Coral restoration methodology and good practices guide developed and validated by the project steering committee	TOR of PSC does not include validation of reports, this is to be undertaken by RSAC
Output 3.1.3 Research undertaken to provide information to guide restoration and enhance reef resilience where required (e.g. genetic connectivity of coral species, spawning seasons and coral recruitment patterns, resistant/ resilient species and clades) *3.1.3.1 Study in genetic connectivity among Mauritius, Rodrigues and Seychelles [IRD consultancy with MOI]* *3.1.3.2 Study in the coral spawning and recruits in Mauritius, Rodrigues and Seychelles [AFRC in partnership with JICA]* *3.1.3.3 Study in the identification of bleaching resistant clades of zooxanthellae. [IDC consultancy]*	45/ Research and surveys on key information for reef restoration undertaken	Preliminary surveys and analysis of past coral reef restoration projects undertaken	Regional research and analysis on key information [on] coral reef resilience, and genetic diversity and connectivity on-going	Report on research and analysis. Published paper	MT target not specific End of project target suggests just 1 report and 1 published paper?
Outcome 3.2 Improved understanding within the WIO and globally of successful approaches to reef restoration, the constraints and challenges, with lessons learned incorporated into new initiatives					

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
Output 3.2.1 Lessons learned in reef restoration documented and shared *3.2.1.1 Creation and maintenance of project website* *3.2.1.2 Short clips and documentary film on the project implementation in Mauritius and Seychelles. Same will be used for showcasing the project nationally, regionally and globally.* *3.2.1.3 Participation in relevant international symposium*	46/ Knowledge sharing platform on reef restoration for sharing lessons learned developed	0	Knowledge sharing platform developed	Knowledge sharing platform developed and operational	
Output 3.2.2 Reef Restoration ~~tool kit and~~ manual for use in the WIO published and disseminated**.** *3.2.2.1 Updating and online publishing of the Coral Reef Restoration Toolkit [produced by Nature Seychelles]*	47/ Reef Restoration Manual developed	1 2 (1 for Seychelles and 1 for WIOMSA)	Updated [multi-authored] Reef Restoration Manual drafted	[Multi authored] Reef Restoration Manual updated, revised and published online	Inconsistency between tool / kit & manual in pro doc– refer to as manual throughout The active participation and collaboration of the key stakeholders of coral reef restoration for the timely drafting of the manual is assumed- thus the manual / lessons learnt will be drafted by more than one stakeholder (i.e., the manual should be multi-authored).
OUTCOME 3.3 REGIONAL CAPACITY DEVELOPED FOR SUSTAINABLE AND CLIMATE RESILIENT CORAL RESTORATION					
Output 3.3.1 Regional training programme on reef restoration in place, possibly with an associated Certificate of Competence **[**Main text in Prodoc: Regional training workshops undertaken on monitoring, DNA-based approach for the identification of resilient corals, and other topics as appropriate – entered as separate output below is output 3.3.1 and output 3,3,2 is missing] *3.3.1.1 Regional training on genetic/clade analysis [IRD Consultancy]* *3.3.1.2 Regional training on coral farming and transplantation* *3.3.1.3 Regional training on micro-fragmentation [Led by NeySey]*	48/ Number of members [of WIO] from Mauritius and Seychelles trained in coral reef restoration methods, with particular attention given to increasing female participants/beneficiaries from the capacity building activities	0	At least 7 members (gender disaggregated data will be collected). Beneficiaries: representative of the WIO region countries involved in coral reef restoration	At least 20 members {Gender disaggregated data will be collected). Beneficiaries: representative of the WIO region countries involved in coral reef restoration	Not clear what is meant by members ? Assume of WIO targets seem quite low. Could also incorporate / be supported with data from other workshops (3) based on activities in pro doc

Output / activity ref	Indicator	Baseline	Mid-term Target	End of Project Target	SMART Assessment / revisions
3.3.1.4 Feasibility study of setting up of genetic laboratory in Seychelles. [No interest in Seychelles]					
Output 3.3.2 Regional training workshops undertaken on monitoring, DNA based approach for the identification of resilient corals, genetic connectivity and other topics as appropriate **[Relates to Activity 3.3.1.1]**	49/ Number of members from Mauritius and Seychelles trained in advanced coral genetics including clade analysis, with particular attention given to increasing female participants/beneficiaries from the capacity building activities	0	At least 10 participants Gender disaggregated data will be collected. Beneficiaries: MBEMRFS, SNPA, Nature Seychelles, MCSS and some participants from the WIO region who are doing active in coral restoration work in the region.	At least 20 participants Gender disaggregated data will be collected. Beneficiaries: MBEMRFS, SNPA, Nature Seychelles, MCSS and some participants from the WIO region who are doing active in coral restoration work in the region.	
Output 3.3.3. Sustainable longterm monitoring programme **[outcome 3.3.2 in Prodoc – numbering issues]** *3.3.2.1 – Carrying our spatio-temporal study of the coast at the restoration sites to monitor long term impact of restoration work.* *3.3.2.2 – Carrying out the current pattern for Mauritius, Rodrigues and Seychelles.* *3.3.2.3 Review the legislative and legal framework of each country* *3.3.2.4 Preparation of a Regional Coral Reef Restoration Plan. [unlikely to be needed]*	50/ **Regional Coral Restoration Plan** including national component and long- developed and underway for restored reefs, based on international/regional protocols and best practice term monitoring programme	0	Draft Regional Coral restoration plan developed	Regional Coral restoration plan developed and validated by the Project Steering Committee and adopted by both countries	TOR of PSC does not include validation of reports
	51/ Participation in regional and scientific international forums Participation in regional and international scientific forums	0	0	participation to at least 1 relevant regional/international fora	This can be moved to output 3.2.1 – relates to *3.2.1.3 Participation in relevant international symposium? Should also refer to regional forum* *This is a very low ambition / target*
	52/ Regional studies on wave patterns, beach erosion and mapping	0	At least 5 surveys (one in each site) by mid project	At least 10 by the end of the project.	Indicator and targets refer to MOI surveys, rather than Coral Restoration Plan as an output.

5.3 Annex 3: Progress Towards Results Matrix (Achievement of outcomes against End of project targets) - at Mid-Term

Indicator Assessment key:

Achieved	On target to be achieved	Not on target to be achieved

Achievement rating: HS – Highly Satisfactory; S – Satisfactory, MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; U – Unsatisfactory; HU – Highly Unsatisfactory.

Indicator	Baseline	Level in 1st PPR (30 Sept 2021)	Mid-term Target	End of Project Target	Mid-term level & Assessment	Achievement Rating	Justification for rating
OBJECTIVE 1: 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, AT A LARGER SCALE THAN EVER TESTED IN THE PAST – Moderately Satisfactory							
1/Targeted degraded sites restored to scale using farmed corals, *with good survivorship and growth rates of the colonies*	Mauritius : 0.075ha (750 m^2) in Mauritius (non-project sites) Ha at BBMP and SEMPA (project sites) Seychelles: 0.5 ha (5.225 m^2)	Mauritius: Coral nurseries expected to be set up by Q1 of 2022 Seychelles: Marine Conservation Society of Seychelles has transplanted a total of 2,039 coral colonies within the Ste Anne Marine National Park, with a total of 0.051ha (510m2) restored	Mauritius: 0.2 ha each by February 2024. Seychelles Nsey (Cousin special Reserve): 0.50ha MCSS (Ste Anne Marine Park): 0.25ha SNPA (Curieuse Marine Park): 0.20ha* 0.95 ha	Mauritius Eco-Sud = 1.6 ha Reef Conservation = 1.6 ha Shoals Rodrigues = 1 ha Total: 4.2 ha Seychelles Total = 2.0ha over project cycle Ste Anne Marine National Park: Increase from 0.25 Ha to 0.40 Ha Anse Forbans: Decrease from 0.25 Ha to 0.10 Ha SNPA (Curieuse MP): 0.50ha* Proposed revision at MTR: Ste Anne Marine National Park: Increase to 0.45 Ha		MS	Mauritius: Mid – term targets not achieved. Restoration work will start in 2024. MOI still to recommends outplanting approaches and sites. Nature Seychelles: 0.45 ha It is unlikely that all APs will meet their targets their EOP targets, which at contingent on numerous variable some of which are outside of the control of the APs (staffing, weather conditions)

Indicator	Baseline	Level in 1st PPR (30 Sept 2021)	Mid-term Target	End of Project Target	Mid-term level & Assessment	Achievement Rating	Justification for rating
				Anse Forbans: Decrease to 0.05 Ha[83]			
2/Number of stakeholders with improved livelihoods due to new and sustained employment & business opportunities related to coral restoration activities and/or due to the improved coastal and marine ecosystems supported by the restored corals		Mauritius: One Activity Partner has been contracted in Mauritius (Oct 2021) and training to 290 beneficiaries will be initiated in Q4 of 2021 Rodrigues One Activity Partner has been contracted in Mauritius and training to 180 beneficiaries will be initiated in Q4 of 2021 Seychelles: Total to date = 15 people trained and awareness programme conducted	At least 200 persons Breakdown by Seychelles activity partner: Nsey: 33 people MCSS: 33 people SNPA: 34 people Total = 100 by mid-term	At least 800 persons Breakdown for **Seychelles:** Nature Seychelles: 100 people Marine Conservation Society of Seychelles: 100 people Seychelles Parks and Gardens Authority: 100 people Total = 300 people over project cycle		MS	In Mauritius data reported relates to the beneficiaries who have been trained and are receiving a stipend from the project. This equal 117 people. In Seychelles the number of people trained has been reported, which is not relevant to this indicator (it is captured under indicator 3) The impact is intended to be determined by the livelihood surveys, but these are proving difficult to implement, especially in the Seychelles and unlikely to provide data needed. It is not evident that this target can be strictly met in Seychelles **Mauritius**: To date 87 beneficiaries (55 females and 62 males) trained by the 2 NGOs have signed a social contract and are directly benefitting from improved livelihood as they receive a stipend of around USD 24 per day. As per the baseline livelihood survey reports submitted by the NGOs, 34% of Eco-Sud and 38% of Reef Conservation beneficiaries are female heads of households. **Rodrigues:** To date 30 beneficiaries (11 females and 19 males) trained by the 1 NGOs have signed a social contract and are directly benefitting from improved livelihood as they receive a stipend of around USD 16 per day. As per the baseline livelihood survey reports submitted by the NGOs, 23% of Shoals Rodrigues beneficiaries are female heads of households. **Seychelles**: Total to date = 27 people trained in nursery maintenance

[83] Proposed by MCSS given the logistical challenges, additional fuel cost of transporting corals from their nurseries in Ste Anne MNP to Anse Forbans. Benefit is that restored area within Ste Anne MNP will increase, noting that Anse Forban is not a MNP.

Indicator	Baseline	Level in 1st PPR (30 Sept 2021)	Mid-term Target	End of Project Target	Mid-term level & Assessment	Achievement Rating	Justification for rating
3/Number of people trained and involved in the **establishment, maintenance and monitoring** of successful ocean nurseries for corals	0	Mauritius: One Activity Partner has been contracted in Mauritius and training to 290 beneficiaries will be initiated in Q4 of 2021 Rodrigues One Activity Partner has been contracted in Mauritius and training to 180 beneficiaries will be initiated in Q4 of 2021 Seychelles: Overall target 76% achieved based on mid-term targets Total to date = 28 people involved in project activities	At least 500 for Mauritius and Rodrigues Seychelles Nsey: 5 staff, 6 volunteers and 10 community members MCSS: 4 staff and 5 community members SNPA: 3 staff and 4 Mauritian* volunteers Total = 37 people by mid-term	**Mauritius,** at least 500 community members involved **Seychelles**: Nsey: 6 staffs, 15 volunteers and 10 community members. MCSS: 4 staff, and 10 community members SNPA: 4 staff and 10 Mauritian* volunteers **Total = 59 people over project cycle**		HS	**Mauritius and Rodrigues:** There are 117 beneficiaries directly involved. In addition, Eco-Sud has also trained 431 people from Lux Resort and Tamassa Hotel which operate in the Southeast region of Mauritius. Moreover, 8 persons (including staff from Eco-Sud, MOI, AFRC and the PMT) are being trained in PADI diving courses. **Total = 541,** exceeding end of project target **Seychelles:** Total to date = 44 people involved
PROJECT OBJECTIVE 2: TO GENERATE KNOWLEDGE ABOUT EFFECTIVE RESTORATION TECHNIQUES FOR DISSEMINATION TO OTHER SIDS AND COUNTRIES WITHIN THE WIDER REGION- Moderately Satisfactory							
4/Number research papers on coral reef restoration submitted for presentation at various scientific forums in the WIO and globally, with female scientists' participation in publication efforts actively supported.	0	Seychelles: Total to date = 0 papers published and 3 female scientists recruited by Seychelles	At least 5 female scientists contributed in the production of scientific publication Seychelles: at least 1 female scientist participating in publication efforts by mid-term.	At least 3 papers published At least 5 female scientists contributed in the production of scientific publication **Seychelles:** Seychelles: at least 1 paper published over project cycle Seychelles: at least 2 female scientists contributed in the production of scientific publication over project cycle		S	0 papers published. Nature Seychelles presented "Testing performance of nursery methods in a coral restoration project, Cousin Island, Republic of Seychelles" at the 12 WIOMSA symposium and updates paper will be finalized at Q1 2024. This was written with the support of. a female scientist and while not yet published, is on track.

Indicator	Baseline	Level in 1st PPR (30 Sept 2021)	Mid-term Target	End of Project Target	Mid-term level & Assessment	Achievement Rating	Justification for rating
5/ Number of "lessons learned" generated and disseminated through various communication channels and knowledge exchange fora on the practical topics relevant to the coral restoration efforts at scale, including 1) coral restoration financing, 2) climate change resilience of the applied techniques, 3) upscaling efforts, 4) financial and technical sustainability, 5) stakeholder and private sector engagement and buy-ins, 6) women and youth empowerment;	zero	[*Not stated*]	At least 1 brief on coral restoration financing At least 1 brief on climate change resilience At least 1 brief on coastal restoration at scale At least 1 brief on financial and technical sustainability At least 1 brief on stakeholder and/or private sector engagement At least 1 brief on women and youth empowerment There is no mid-term target as the indicator was updated during the inception workshop	At least 1 brief on coral restoration financing At least 1 brief on climate change resilience At least 1 brief on coastal restoration at scale At least 1 brief on financial and technical sustainability At least 1 brief on stakeholder and/or private sector engagement At least 1 brief on women and youth empowerment Seychelles: At least 1 brief on coral restoration financing At least 1 brief on climate change resilience At least 1 brief on coastal restoration at scale	No mid-term target but not on track	No mid-term target but not on track	Plan for delivering specified briefs is unknown. Suggested that NGOs will provide inputs and PMT and CTA will collate. Briefs are not articulated under any of the activities in the Project Document. A publications plan is need going forward.

COMPONENT 1: ENHANCEMENT OF FOOD SECURITY AND REDUCTION OF RISKS FROM NATURAL DISASTERS THROUGH THE RESTORATION OF DEGRADED REEFS IN MAURITIUS

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
OUTCOME 1.1: IMPROVED LIVELIHOOD FOR SUSTAINABLE PARTNERSHIPS AND COMMUNITY BASED APPROACH TO REEF RESTORATION – Satisfactory								
6/ Output 1.1.1 Coastal communities benefit from improved livelihoods through employment establishing and maintaining coral nurseries and transplantation sites. Links to indicator 2 & 3 Based on the activities and indicator for this output, this output is focused on training and awareness raising and should have been more specifically titled to reflect the training aspect and distinguish it from output 1.1.2	Number of community members (as identified in Community Action Plan and any other complementary analysis) trained in establishing and maintaining proposed coral nurseries (Data disaggregated by community groups, gender and age group), with a particular attention given to increasing female and youth participants/trainees	110	In Seychelles - 15 people (female) were trained on different aspects of ecosystem rehabilitation, coral restoration and enhancement of guest related activities In Mauritius- 10 trainers were trained on the construction of rope and table nurseries, of which 4 were female.	At least 500 for Mauritius and Rodrigues Data collected aggregated by sex, age and household status	At least 500 for Mauritius and Rodrigues Data collected aggregated by sex, age and household status		HS	**In Mauritius**- 44 community members trained by Reef Conservation, of whom 53% of the beneficiaries are female and 47% male. Moreover, 44% of them are aged between 18-25 years and 53% comes from the vulnerable group 43 community members trained by EcoSud, of whom 49% of the beneficiaries are female and 51% male. Moreover, 33% of them are aged between 18-25 years and 80% comes from the vulnerable group Training ongoing for 30 beneficiaries by Shoals Rodrigues, 11 females and 19 male. Total: 117 direct community members **Indirect beneficiaries** - Eco-Sud has trained 431 hotel staff with co-financing resources in 2022. In 2023, 430 people has been trained by EcoSud and 70 people by Shoals Rodrigues. > 50% female trained. Reporting same data as indicator 3
Output 1.1.2 Coastal communities benefit from improved livelihoods through increased	7/Number of coral restoration economic and financial strategies developed for sustainable financing mechanism	0	0	1 coral restoration economic and financial strategy developed for Mauritius and	1 coral restoration economic and financial strategy developed for Mauritius and		MU	Consultant yet to be hired to develop economic and financial strategy. . Reporting against this indicator has focused on partnership agreement with the hotels, duplication information reported for indicator 8.

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
revenue from alternative work including tourism (glass bottom boat tours, snorkelling and diving trips)				Rodrigues	Rodrigues			
	8/Number of partnership agreement signed for job opportunities	0	2 Agreement is in the process to be signed with the Ecosud and Shoals Rodrigues and the latter with engage 50 and 30 community members in coral restoration activities.	at least 1 agreement signed, and new employment opportunities created	at least 2 agreements signed, and new employment opportunities created		HS	Partnership Agreement signed by Reef Conservation and Compagnie de Beau Vallon which owns Preskil Hotel in the South East of Mauritius. In 2023, RC has signed 3 MOUs with 3 hotels - Beachcomber Paradis Le Morne, Beachcomber Trou aux Biches, and Heritage Resorts Bel Ombre. Eco-Sud has signed 2 new MOUs with LUX Resort and HELIOS EOP target exceeded
	9/ Number of people benefiting from improved income as result of the project, with particular attention given to increasing beneficiaries from female-headed households. Links to 1,2 & 6 but relates to alternative livelihoods – not to training / engagement in coral restoration	0	Two NGOs - one in Mauritius and one in Rodrigues have been selected. Training of beneficiaries will start as from December 2021 - target for Mauritius is 300 and of this 50 will be engaged by the NGO for coral restoration activities and the target for Rodrigues is 180 and of this 30 will be engaged by the NGO. One-third of the beneficiaries will be from female headed household.	At least 50 persons (disaggregated by sex, age and household status) ~~by end of project~~	At least 100 persons (disaggregated by sex, age and household status) by end of project		HS	As per the baseline livelihood survey reports submitted by the NGOs: RC–44, 39% from female-headed households ES– 42, 34% female-headed households Shoals – 55, 23% female-headed households. T= 141
OUTCOME 1.2: CORAL FARMING AND NURSERY FACILITIES ESTABLISHED AT A SUFFICIENT SCALE FOR MORE CLIMATE CHANGE RESILIENT CORALS – Moderately Satisfactory								
Output 1.2.1 Donor coral colonies of appropriate species (resilience, maintaining genetic diversity) available	10/ Number of coral species for propagation based on resilience and genetic diversity identified.	none	The consultants from IRD has been recruited as from October 2021 to work on coral genetic connectivity and heat resilience.	Coral species identified and validated by the PSC/RSCA	Coral species identified and validated by the PSC/ RSCA		MS	Delayed due to delays in genetics work Coral sampling for 2 species have been completed for Mauritius, Rodrigues & Seychelles. DNA has been extracted and stored at MOI and this will be used for Genomic study to determine heat resilient corals

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
at sufficient scale (quantity, time, intervals etc.) for propagation in nurseries								DNA Sequencing has been delayed due to: 1/Extensive consultations with both Governments to ensure adherence to Nagoya Protocol. 2/ Difficulties in procurement of laboratory services. 3/ Supply chain issues in obtaining the enzyme for Quality control before sending to Laboratory for sequencing It is not clear who validates coral species ?
	11/ Number of donor sites with locally threatened species (Mauritius & Rodrigues) identified	None	Due to COVID and delays in procuring some equipment, the GIS maps of the lagoons of Mauritius and Rodrigues developed under the GEF Mainstreaming Biodiversity project are being used to identify the donor sites.	at least 2 donor sites identified	at least 2 donor sites identified		HS	Achieved As per the draft Coral Collection Plan 8 coral donor sites identified in Mauritius and 4 donor sites in Rodrigues EOP target exceeded
	12/ Percentage of high thermal tolerance corals collected from donor sites for propagation in nurseries.	0%	The consultants from IRD have been recruited and will be on mission as from January 2022.	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor site Guidance rather than indicator **Revised?: 3 surveys by mid-term, as per ES Risk Assessment**	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor site		MS	Coral Collection Plan and Nursery Deployment Plan approved in March 2023 by Ministry, and no more than 10% will be collected from each colony Propagation not yet initiated. NGOs delayed as awaiting finalization of Coral Restoration Plan, delays in obtaining interference permits from Ministry (Reef Conservation, Shoals Rodrigues) and the allowed collection window.

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
Output 1.2.2 Reports on coral reef status, water quality, and other key environmental and social parameters for potential nursery sites	13/ Number of surveys for identification of nursery sites (Mauritius and Rodrigues)	Not yet undertaken	ESMP is being reviewed and training provided to conduct the surveys.	3 Reports on coral reef status, water quality, current patterns/ flushing and other key environmental and social parameters for potential nursery sites produced	6 Reports on coral reef status, water quality, current patterns/ flushing and other key environmental and social parameters for potential nursery sites produced		S	As of Oct 2023 - 3 reports completed – Preliminary surveys, Coral Collection Plan (MRU) and Current Pattern Survey (ROD)
	14/ Number of Environmental and Social Monitoring surveys carried out	0	Delays in the delivery of equipment have limited this exercise. Nevertheless, 2 preliminary surveys have been conducted in Rodrigues. Previous work done in the BBMP region in Mauritius are being used and consultation with fishermen community is being held by the NGOs prior to finalising site selection.	3 surveys by midterm, as per ES Risk Assessment	6 surveys by end of project, as per ES Risk Assessment		HS	Mid-term targeted achieved at PPR2 8 Environmental and Social Monitoring surveys have been carried out -3 by Eco-Sud, 2 by Reef Conservation and 3 by Shoals Rodrigues
Output 1.2.3 A land-based nursery and 2 or more ocean nurseries established and maintained on a regular basis	15/ Number of Land based nursery established and operational	0	The services for the procurement of a Civil Engineer is on-going for the setting up of land-based nusery MOI (asexual propagation) and AFRC (sexual reproduction) and	One land-based nursery established and operational	One land-based nursery established and operational		MU	The land based nursery has faced significant delays related to slow approvals by the Ministry of Blue Economy. Corrective action is needed going forward. Q2 2023: Consultations held between the design consultants and MOI. Draft feasibility reports have been submitted in July 2023. The feasibility report for MOI is

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
			the installation of a sea water pump at MOI. In addition, in-cash co-financing of MUR 59 M (approx. USD 1.4 M) from Government of Mauritius has been mobilised to increase the scale of the land-based nurseries and equip it with a sea-water pumping system					expected to be finalised in November 2023.
	16/ Number of infrastructures for nursery seeding from sexual reproduction (Mauritius) established	Non-existent	*As above*	one Infrastructure established	one Infrastructure established and operational		MU	The land based nursery has faced significant delays related to slow approvals by the Ministry of Blue Economy. Corrective action is needed going forward
	17/ Number of ocean-based nurseries established and operational in **Mauritius**	9 nurseries currently operational (AFRC, Ecomode, Wise Oceans, Ecosud, UoM)– different institutions are using different techniques with different no of fragments	Works have been initiated with the selection of one NGO (Ecosud) with whom Agreement has been signed in Oct 2021.	1 new ocean-based nursery established and operational with 100 basal tables (approx. 20k fragments.), 100 multi-layered ropes nursery units (approx.. 100k fragments)	1 new ocean based nursery established and operational with 100 basal tables, 100 multi-layered ropes nursery units		HS	5 sites have been identified for ocean nurseries within Blue Bay Marine Park and Grand Port Fishing Reserve. Deployment as of Q2 2023 EcoSud – Out of 250 tables, 200 table nurseries deployed and out of 100 rope nurseries, 75 rope nurseries deployed. Reef Conservation - Out of 150, 78 Table nurseries deployed in GPFR. Out of 100, 48 Rope nurseries deployed in GPFR This totals 278 tables and 123 rope nursery units, exceeding the end of project target.
	18/ Number of community members involved in the maintenance and monitoring of new	0	Ecosud has developed the selection criteria for the selection of community members.	At least 20 community members involved	At least 20 community members involved		S	Link to indicator 2 & 3 Q2 2023: EcoSud – 30 community members Reef Conservation – 38 community members

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
	ocean-based nurseries in **Mauritius**		Awareness campaigns have been conducted to encourage community members in the South east region to register themselves					
	19/ Number of ocean-based nurseries established and operational in **Rodrigues**	No sea-based nursery is currently operational	Works have been initiated with the selection of one NGO (Shoals Rodrigues) with whom Agreement has been signed in Nov 2021.	1 ocean-based nursery established and operational with 40 multilayered ropes nursery unit	1 ocean-based nursery established and operational with 40 multilayered ropes nursery unit		S	Shoals Rodrigues: 80 tables nurseries and 11 rope nurseries out of 44 deployed at 3 sites. [target does not include tables?]
	20/ Number of community members involved in the maintenance and monitoring of seabased nurseries in **Rodrigues**	0	Works have been initiated with the selection of one NGO (Shoals Rodrigues) with whom Agreement has been signed in Nov 2021.	At least 11 community members fully involved	At least 11 community members fully involved	.	S	Links to indicator 2 & 3 Oct 2023: 43
Output 1.2.4 Stock of farmed corals available for transplantation	21/ Number of coral fragments under culture in **land-based nursery** (Mauritius)	0	0	7,000 coral fragments (including resilient species and locally threatened coral species)	15,000 coral fragments (including resilient species and locally threatened coral species)		MU	This activity will start following the completion of the land-based nurseries. 2 land-based nursery feasibility study produced (one near final and one in review by government) Construction not yet commenced Contingent on indicators 15 and 16
	22/ Percentage of coral polyps successfully settled in situ	0%	0	1.5% of polyps settled from each spawning. (approx. 1,500 recruits per year)	1.5% of polyps settled from each spawning. (approx. 1,500 recruits per year)		MU	No coral fragment under culture yet Mid-term target not achieved.

Output	Verifiable Indicators	Baseline	Level in 1st PIR	Mid-term Target	End of Project Target	Mid-term level & assessment	Achievement rating	Justification for rating (*as of end October 2023*)
	23/ Number of coral fragments under culture in new **sea-based nurseries** in Mauritius	0	0	n/a	120,000 fragments	No mid-term target but not on track	No mid-term target but not on track	EcoSud – 10,250 fragments Reef Conservation – 9,567 fragments in total, 4,302 in 48 Table nurseries and 5,265 in 13 Rope nurseries NGOs face challenges reaching end of project targets
	24/ Number of coral fragments under culture in **sea-based nurseries** in Rodrigues	0	0	n/a	40,000 fragments for multi-layered rope nursery unit	No mid-term target but not on track	No mid-term target but not on track	11,413 fragments cultivated 40,000 by end of project is not possible unless put in more tales and ropes . MOI overestimated how many fragments can be put on ropes and tables – can't put number suggested as would be too close. Need to revise down
OUTCOME 1.3: THE HEALTH OF DEGRADED REEFS RESTORED, THROUGH ACTIVE RESTORATION WORK, MAINTENANCE AND MONITORING EFFORTS, LEADING ULTIMATELY TO GREATER PROTECTION OF SHORE FROM FLOODING AND STORM DAMAGE – Moderately Satisfactory								
Output 1.3.1: Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from erosion.	25/ Areas of site successfully restored using farmed corals of resilient species in Mauritius and Rodrigues	1,600 m2 restored with 6,100 aqua-cultured coral colonies (i.e. 400 m2 at La Gaulette, 350 m2 at Quatre Soeurs, 300 m2 at Bel Ombre, 350 m2 at Grand Gaube, 100 m2 in Grand Port and 100 m2 in Trou aux Biches)	0	1.2 Ha in Mauritius and 0.3 Ha in Rodrigues	2.5 Ha in Mauritius and 0.7 Ha in Rodrigues		MS	Overlap with indicator 1
Output 1.3.2 Recovery of fish population and other reef associated fauna and flora, leading ultimately to improved food security in Mauritius and Rodrigues.	26/ percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment, fish biomass, fish diversity and fish catch amongst others)	% live coral: NA Fish population ~~and fish catch~~: NA	0	-	at least 10 % increase in live coral cover, fish density and diversity.	No mid-term target but not on track	No mid-term target but not on track	Fishing is not permitted (e.g., Blue Bay Marine Park in Mauritius). Fish catch is not an appropriate indicator for use in these Project sites Monitoring not yet started as restoration works will start in 2024. The CTA has prepared a templates for monitoring to ensure harmonised data capture using best practices by all partners, but very challenging to complete

Component 2: Enhancement of food security and reduction of risks from natural disasters through then restoration of degraded reefs in the Seychelles

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
Outcome 2.1 Improved livelihood for a sustainable partnership to coral reef restoration								
Output 2.1.1 Coastal communities benefit from improved livelihoods through employment establishing and maintaining coral nurseries and transplantation sites.	27/ Number of people trained in establishment and maintenance of coral nurseries (Data disaggregated by community groups, gender and age group), with a particular attention given to increasing female and youth participants/trainees	0	0	At least 30 people ~~by end of project~~	At least 60 people by end of project		HS	Overlap with 2 & 3 Overall target 100% achieved based on mid-term targets: Total to date =(17+31+8)=56 people trained in nursery maintenance. % achieved to mid-term target= 100% % achieved to end term target= (58/60) x100= 97% Female=39, Male=19 **Nature Seychelles**: Total to date 17 (13 females and 4 males). **MCSS**: MCSS have 10 staff (8 F, 2 M; of which 10 are youth), 9 community members (6 F, 3 M; of which 7 are youth) and 12 international volunteers (4 M, 8 F, of which all 12 are youth) involved in nursery maintenance trained. **SPGA**: Objective indicator s1 = 10 people 3 Permanent staff (2M/1Y + 1F/Y), 2 SPGA research staff (1M + 1F), 5 SPGA staff (2F/1Y + 3M)
Output 2.1.2 Coastal communities benefit from improved livelihoods through increased revenue from alternative work including tourism (glass bottom boat tours, snorkelling and diving trips) [PRR mixes indicators and targets]	28/ Number of sustainable financing mechanisms for the maintenance and monitoring of coral restoration activities with recommendations]	Draft business plan	Scheduled for 2022/2023	Nsey: 1 Business plan produced (including marketing & development of 1 product), and at least 1 MOUs by mid-term	Nsey: 1 Business plan produced (including marketing & development of 2 products), at least 2 MOUs and new employment opportunities created over project cycle	.	MS	To be developed by Nature Seychelles in 2024. Table of contents available SPGA completed their MPA Strategic Plan prior to the commencement of the Project.
	29/ Number of stakeholders with improved livelihoods due to new employment & business opportunities, with	0		At least 30 people ~~by end of project~~ (Data disaggregated by community groups, household	At least 60 people by end of project (Data disaggregated by community groups,		MU	Refers to alternative livelihoods not training. Link to 2 &3. Project had been reporting data on training - same information as indicator 2.1.10 . Evidence of livelihood improvements not presented and not

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
	particular attention given to increasing beneficiaries from female-headed households.			status, gender and age group) Nsey: 15 people MCSS: 12 people SNPA: 3 people	household status, gender and age group) Nsey; 30 people MCSS: 26 people SNPA: 4 people			clear this will be possible within the project timeframe
Outcome 2.2 Coral farming and nursery facilities established at a sufficient scale for more climate change resilient corals								
Output 2.2.1 Donor coral colonies of appropriate species (resilience, maintaining genetic diversity) available at sufficient scale (quantity, time, intervals etc.) for propagation in nurseries	30/ Number of coral species for propagation based on resilience and genetic diversity identified	Coral species selected during previous Reef Rescuers Project (Nature Seychelles) based on survival from 1998 El Nino	Overall target 50% achieved based on mid-term targets Total to date, 6-7 genera have been propagated, but not yet validated as resilient or genetically diverse by the Regional Scientific Committee[84].	1 Coral species identified in Seychelles by mid-term and validated by the PSC/RSAC	1 Coral species identified in Seychelles during project cycle and validated by the PSC/RSAC		S	Overall target 50% achieved based on mid-term targets. Total to date, 6-7 genera have been propagated. These are yet to be validated as resilient or genetically diverse by the Regional Scientific Committee. Nature Seychelles: xxx MCSS: propagated 6 genera: *Acropora*, *Pocillopora*, *Porites*, *Stylophora*, *Galaxea* and *Pavona.* SPGA: propagated 3 genera, namely *Acropora*, *Pocillopora* and *Porites.*
	31/ Number of donor sites with resilient and resistant coral species identified	2 Donor sites identified and used for previous Reef Rescuers project	Nature Seychelles: 1 new donor site identified in Cousine Island based on information collected	Nsey: 1 donor site MCSS: 1 donor site SNPA: 1 donor site Total = 3 donor sites identified by mid-term	MCSS: 1 donor site SNPA: 1 donor siteTotal = 3 donor sites identified		HS	Mid-term target achieved by first PPR1 and end of project target 15 donor sites identified **Nature Seychelles**: two active donor sites in Cousin Island are in use to collect fragments. **MCSS** have identified 3 donor sites; 1 in the Ste Anne Marine National Park, 1 at Ile

84 As reported by **Nature Seychelle**s in Q2, 7 genera were used for stocking, of which 6 belongs to the genus Pocillpora (i.e., P. acuta, P. damicornis, P. verrucosa, P. meandrina, P. indiania, P. grandis) and 1 Acropora spp. Selection was based on the previous Reef Rescuers Project and identification was based on morphological features. As per the previous reporting period, Marine Conservation Society of Seychelles have propagated 6 genera: Acropora, Pocillopora, Porites, Stylophora, Galaxea, Pavona Seychelles Parks and Gardens Authority propagated 3 genera, namely Acropora, Pocillopora and Porites

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
		(Nature Seychelles)	during the previous Reef Rescuers project. Therefore, two active donor sites are in use to collect fragments. **MCSS** have identified 3 donor sites; 1 in the Ste Anne Marine National Park, 1 at Ile du Port and 1 at Perseverance, based on resilience of coral colonies. **SPGA** have identified 1 donor site in the Curieuse Marine National Park (Baie Laraie / Anse Papaie Reef), but further assessment is needed.		over project cycle*			du Port and 1 at Perseverance, based on resilience of coral colonies at these sites. **SPGA** has identified 5 donor sites (Baie Laraie, La Reserve, Ste Pierre, New Emerald Cove & Baie Ste Anne Jetty).
	32/ percentage of climate resilient coral collected from donor sites for propagation in nurseries	0%	The guideline of no more than 10% of each donor colony fragmented has been followed.	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor sites	not more than 10 % of each donor coral colony will be collected to avoid death of donor corals at donor sites		S	The guideline of no more than 10% of each donor colony fragmented has been followed. Annual Technical reports from Partners to validate - awaiting review of MOU between MACCE and APs Don't know if climate resilient

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
Output 2.2.2 Reports on coral reef status, water quality, and other key environmental and social parameters for potential nursery sites	33/ Surveys for identification of nursery sites including parameters suitable for maximized coral growth	1 nursery site at Cousin Island; 1 nursery site at Curieuse Island; 1 nursery site Ste Anne/Ile a Cerf	Nature Seychelles has 3 ocean nurseries within the Cousin Nature Reserve, MCSS has 7 ocean nurseries within the Ste Anne Marine Park . Seychelles Parks and Gardens Authority have 3 nursery sites which is currently operational within Curieuse Marine National Park	3 Nursery sites of different size operational Nsey (Cousin): 1 nursery site MCSS (Sainte-Anne MP): 1 nursery site SNPA (Curieuse): 1 nursery site Total = 3 nursery sites operational by mid-term	3 Nursery sites of different size operational Nsey (Cousin): 1 nursery site MCSS (Sainte-Anne MP): 1 nursery site SNPA (Curieuse): 1 nursery site Total = 3 nursery sites operational over project cycle		S	Overall target 100% achieved based on mid-term and end-of- project targets. Total to date = 3 nursery sites operational Nature Seychelles: No changes to report. MCSS have 2 nursery sites which are currently operational with 8 ocean nurseries within the Ste Anne Marine National Park (https://www.mcsscoralrestoration.com/donor-sites). SPGA has 1 nursery site which is currently operational within Curieuse Marine National Park to cater for at least 3 ocean nurseries.
	34/ Number of Environmental and Social Risk Assessment Reports	0	ESMP is being reviewed and training provided to conduct the surveys.	3	6		MU	0 reports / off track No Technical reports on Environment from Partners to validate - awaiting review of MOU between MACCE and APs (Template to assist APs prepared by CTA

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
Output 2.2.3 A land-based nursery established, and 2 or more ocean nurseries are established and maintained on a regular basis	35/ Number of **land-based** nursery established and operational	2 small scale land nurseries at Beau Vallon (200 fragments) and Anse Forbans (100 fragments)	Nature Seychelles: Design of the Land-based Nursery at Praslin has started. Candidate has been selected for the role of Land-base Manager.	Nsey (Praslin)*: 1 land-based nursery set up by mid-term	Nsey (Praslin)*: 1 land-based nursery set up by mid-term	.	MS	Overall target 0% achieved based on mid-term targets. However, land based nursey is expected to be completed in Q2 2024.
	36 / Number of **ocean-based** nurseries established and operational	Previous experience installing & maintaining ocean nurseries; midwater rope nurseries still operational: Existing ocean-based nurseries: in Curieuse, Ste Anne/Ile aux Cerfs.Beau Vallon, and Cousin.	Overall target 79% achieved based on mid-term targets Total to date = 13 ocean-based nurseries set up[85].	Nsey (Cousin): 5 new ocean nurseries MCSS (Ste Anne*): 4 new ocean nurseries. SNPA (Curieuse); 5 new ocean nurseries; **Total = 14**	Cousin: At least 10 new ocean nurseries; Curieuse: 20 new Nurseries; St Anne: 8 new Nurseries.		S	Total to date 22 ocean-based nurseries set up Nature Seychelles has established 6 ocean-based nurseries MCSS: 8 ocean-nurseries operational at 2 nursery sites within Ste Anne Marine National Park (https://www.mcsscoralrestoration.com/donor-sites) SPGA: SPGA currently has 8 rope nurseries (one more than the original plan because they believe that it will produce better end results towards the numbers of out planting corals to meet end target)

[85] Nature Seychelles:3 ocean-based nurseries set up at within Cousin Island Special Reserve; Marine Conservation; Society of Seychelles: 7 ocean-nurseries operational within Ste Anne Marine National Park; Seychelles Parks and Gardens Authority: 3 new ocean nurseries have been set up at within Curieuse Marine National Park.

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
	37/ Number of people involved in the maintenance and monitoring of new land and ocean-based nurseries	Reef Rescuers project: Prior team of 3 permanent staff and 35 rotating volunteer scientific divers. Current team of 2 MCSS: 3 project staff and volunteers	Overall target 76% achieved based on mid-term targets Total to date = 28 people involved in project activities Nature Seychelles: 5 staff (3M; 2F of which 2 are youths) Marine Conservation Society of Seychelles: 8 staff (6 F, 2 M; of which 7 are youth) and 9 community members (3 F, 5 M; of which 8 are youth) Seychelles Parks and Gardens Authority: 4 staff (2 M; 2 F of which 3 Youths) under the project and 2 existing research staff (1M; 1F of which 1 Youth)	Nsey: 5 staff, 6 volunteers and 10 community members MCSS: 4 staff and 5 community members SNPA: 3 staff and 4 Mauritian* volunteers **Total = 37 people**	Nsey: 6 staffs, 15 volunteers and 10 community members. MCSS: 4 staff, and 10 community members SNPA: 4 staff and 10 Mauritian* volunteers **Total = 59 people**		HS	85 Links with indicator 2 &3 Overall target 100% achieved based on mid-term targets. Disaggregated date from Q2 Total to date = (23+31+11) =65 people involved in project activities. % achieved to mid-term target= (65/37) x100= 100% % achieved to end-term target= (65/59) x100= 100% Female=44, male=21 Nature Seychelles: Total: 23 (16 females and 7 males) (6 staff members – 3 females and 3 males; 17 volunteers -13 females and 4 males). MCSS: Total trained and involved=31 MCSS have had 10 staff (9 F, 1 M; of which 10 are youth) and 9 community members (6 F, 3 M; of which 7 are youth) and 12 international volunteers (4 M, 8 F, of which all 12 are youth) trained and involved in nursery maintenance. SPGA: Objective indicator S11 = 11 people 3 Permanent staff (2M/1Y + 1F/Y), 2 SPGA research staff (1M + 1F), 5 SPGA staff (2F/1Y + 3M), 1 volunteer (1F/Y)Q4 2022 – one volunteer (Female, youth – Reunion Island)

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
Output 2.2.4 Stock of farmed corals available for transplantation	38/ Number of coral fragments under culture in land-based nursery	0	0	NS: At least 500 corals growing in the landbased nursery derived from sexual and/or sexual reproduction	NS: At least 1,000 corals growing in the landbased nursery derived from sexual and/or sexual reproduction		MS	Construction of land-based nursery in Praslin by Nature Seychelles expected to be completed in Q2 2024 2024. While the mid term target has not been met, then end of project target is considered to be more than achievable) once land-based nursery is operational.
	39/ Number of coral fragments under culture in new ocean nurseries	Past Reef Rescuers Project by Nature Seychelles grew 40,000 corals in ocean-based nurseries; at Cousin Island nursery site. Other: cultured corals in Curieuse (~2000 fragments), Ste Anne/Ile aux Cerfs (450 fragments), and Beau Vallon (400 fragments)	21% achieved based on mid-term targets Total to date = 9,068 coral fragments under culture NSey: 2,844 fragments are currently under culture in 1 ocean-based nursery. MCSS: 6,278 coral fragments are currently under culture at 3 nursery sites within Ste Anne Marine National Park. SPGA: 811 live coral fragments are currently under culture in the 3 ocean-based nurseries.	Cousin: At least 25,000 corals Curieuse: at least 12,500 Ste Anne at least 6,000 Total: 43,500 fragments	Cousin: At least 50,000 corals Curieuse: at least 25,000* Ste Anne at least 12,500 Total: 87,500 coral fragments		S	At mid-term there are 40,694 coral fragments under culture, 98% of the mid-term target Nature Seychelles: 24,182 cumulative fragments belonging to 6 genera (*Acropora* spp., *Pocillopora* spp., *Stylophora* spp., *Pavona cactus*, *Stylophora pistillata*, *Psammocora* spp.). MCSS reached a cumulative total of 13,712 fragments in ocean-based nurseries as at end Q4 2023 (8,857 outplanted plus 4,855 in nurseries). Exceeding mid-term target. As of Q4 2023 SPGA had 4,791 cumulative coral fragments, representing 38% of its mid-term target of 12,500 corals. It is not clear what can be achieved in next 3 years and if the end of project target can be met by SPGA.

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
OUTCOME 2.3 THE HEALTH OF DEGRADED REEFS RESTORED, THROUGH ACTIVE RESTORATION WORK, MAINTENANCE AND MONITORING EFFORTS, LEADING ULTIMATELY TO GREATER PROTECTION OF SHORE FROM FLOODING AND STORM DAMAGE - Satisfactory								
Output 2.3.1 Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from erosion	40/ Area of site successfully restored with nursery grown corals	Previous experience restoring a degraded reef with 25,000 nursery grown corals in the Reef Rescuers project covering 0.5 Ha	Marine Conservation Society of Seychelles has transplanted a total of 2,039 coral colonies within the Ste Anne Marine National Park, with a total of 0.051ha (510m2) restored	Nsey (Cousin special Reserve): 0.50ha MCSS (Ste Anne Marine Park): 0.25ha SNPA (Curieuse Marine Park): 0.20ha* Total = 0.95ha by mid-term	Nsey (Cousin SP): 1.00ha MCSS (Ste Anne MP / Anse Forbans): 0.50ha SNPA (Curieuse MP): 0.50ha* Total = 2.0ha over project cycle		HS	links to indicator 1 Q3 2023: Overall target 89.47 % achieved based on mid-term targets. Total restored area to date = 0.42 +0.23+0.2 =0.85ha degraded sites restored using farmed corals. % achieved to midterm target= (0.85/0.95)*100= 89.47% Nature Seychelles: **0**.45 ha with 8,442 corals from 7 genera have been outplanted. MCSS has transplanted a total of 7,894 coral colonies within the Ste Anne Marine National Park, amounting to a total of 0.23ha (2310 m^2) restored area. SPGA: Total hectares restore to date= 0.2 ha (2000 m^2). A total of 2,000 coral fragments have been transplanted using the metal rebars.
	41/ Number of people involved in cementing corals to the degraded reefs and monitoring restoration effects	Prior experience applying cementing techniques during the Reef Rescuers project: Cousin: 3 staff, 2 divers and 35 rotating volunteers SNPA: 4 staff and volunteers; MCSS: 3	76% achieved based on mid-term target Total to date = 28 people involved in project activities Nature Seychelles: 5 staff (3M; 2F of which 2 are youths) Marine Conservation Society of Seychelles: 8	Nsey: 5 staff, 6 volunteers and 10 community members MCSS: 4 staff and 5 community members SNPA: 3 staff and 4 Mauritian* volunteers Total = 37 people by mid-term	Nsey: 6 staffs, 15 volunteers and 10 community members. MCSS: 4 staff, and 10 community members SNPA: 4 staff and 10 Mauritian* volunteers Total = 59 people over project cycle		MS	PPR2 reports the total no. of people with experience in cementing corals =28 or 75.6 % achieved to mid-term target. However, how this data relates to the indicator is not clear as MCSS and Nature Seychelles are using different outplanting techniques and it is assumed that the data reported relates to workforce engaged in all different transplanting approaches (not just using cement)

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
		staffs and volunteers	staff (6 F, 2 M; of which 7 are youth) and 9 community members (3 F, 5 M; of which 8 are youth) Seychelles Parks and Gardens Authority: 4 staff (2 M; 2 F of which 3 Youths) under the project and 2 existing research staff (1M; 1F of which 1 Youth) info not specific to cementing.					
Output 2.3.2 Recovery of fish population and other reef associated fauna and flora, leading ultimately to improved food security in Seychelles	42/ percentage of live coral cover and quality of restoration sites (including, restored coral health status, coral recruitment, fish biomass, fish diversity and fish catch amongst others)	Percentage cover of live coral: --Curieuse 19% cover --Anse Forbans < 5% -- Ste Anne/Cerf 49% Average fish population per m^2 at Ste Anne is 0.307. no	Nothing to report for Seychelles as nurseries are still being set up and it will need time to see increase in coral and fish populations	Cousin: at least 5% increase in coral cover by mid term Ste Anne: at least 5% increase in coral cover by mid term Curieuse: at least 5% increase in coral cover, 5% increase in fish density and 10% increase in fish	Cousin: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle. Ste Anne: at least 10% increase in coral cover, 10% increase in fish density and 10%		MU	Overall target 0% achieved. It is not clear that it will be possible to an see increase in fish populations within the project timeframe. Difficult for all APs to undertake monitoring of all indicators Templates for monitoring using international best practices developed by CTA.

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
		data available for other sites		diversity over project cycle.	increase in fish diversity over project cycle. Anse Forbans: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle. Curieuse: at least 10% increase in coral cover, 10% increase in fish density and 10% increase in fish diversity over project cycle.			

COMPONENT 3 KNOWLEDGE MANAGEMENT AND SHARING, TRAINING AND SENSITIZATION TO BUILD REGIONAL CAPACITY FOR SUSTAINABLE REEF RESTORATION

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
Outcome 3.1 Improved understanding and knowledge management of use of reef restoration as an adaptation measure – Moderately Satisfactory								
Output 3.1.1 Comparative review and analysis of coral restoration initiatives in the region and globally, with gaps in knowledge identified	43/ Comprehensive review of coral reef restoration in the region and globally undertaken	None	CTA completed the review and submitted draft for feedback in November 2021. (Deliverable 4.1 as per CTA contract)	Draft Report/Paper on comprehensive review of coral reef restoration in the region and globally	Report/Paper on comprehensive review of coral reef restoration in the region and globally finalised and validated by the		S	Revised report presented during technical meeting Oct 2023
Output 3.1.2 Based on past and ongoing coral restorations efforts undertaken by the project and others, science-based best practice and methodologies (e.g. factors determining success in coral restoration are known; costeffective approaches, etc.) developed, constraints and challenges identified and lessons learned documented.	44/ Methodologies for coral restoration in Mauritius and Seychelles developed, based on best available science and practices	none	The CTA has reviewed the methods in use in Mauritius and Seychelles as part of review of coral restoration in the region and globally (Deliverable 4.1 of CTA contract), based on available literature. Feedback received during the PNCC meetings in Mauritius and Seychelles was that it was too early in the Project to produce an updated manual outlining best practice guidance (Deliverable 4.2 as per CTA contract). On this basis, the preparation of this guidance document /	Draft Coral restoration methodology and good practices guide developed	Coral restoration methodology and good practices guide developed and validated by the project steering committee		S	

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
			manual will be produced later in the Project based on project findings.					
Output 3.1.3 Research undertaken to provide information to guide restoration and enhance reef resilience where required (e.g. genetic connectivity of coral species, spawning seasons and coral recruitment patterns, resistant/ resilient species and clades)	45/ Research and surveys on key information for reef restoration undertaken	Preliminary surveys and analysis of past coral reef restoration projects undertaken	Genetic consultants recruited and research and surveys planned for 2022.	Regional research and analysis on key information coral reef resilience, and genetic diversity and connectivity ongoing [Not SMART]	Regional research and analysis on key information coral reef resilience, and genetic diversity and connectivity undertaken [Not SMART]		MS	Genetic consultants recruited, surveys and coral sampling carried out in 2022. This was followed by DNA extraction at the MOI. Contract for DNA sequencing awarded in May 2023. Delays are being faced because: 1/ Following the advice of the consultants, the coral extraction of coral sampling was done in a randomised manner. However, DART Sequencing has since changed their protocol and no longer accepts randomised samples and segregation of samples by species was required 2/DART Sequencing also requested quality control to be conducted before sending the samples. There were delays in the procurement of the buffer required for quality control, which is not available in Mauritius.
Outcome 3.2 Improved understanding within the WIO and globally of successful approaches to reef restoration, the constraints and challenges, with lessons learned incorporated into new Initiatives – Moderately Satisfactory								
Output 3.2.1 Lessons learned in reef restoration	46/ Knowledge sharing platform on reef restoration for sharing lessons learned developed	0	Procurement of services for the design and development of the project website	Knowledge sharing platform developed	Knowledge sharing platform developed and operational		MS	Following two unsuccessful procurement exercises, it was decided that a webpage would be

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
documented and shared			which will act as the knowledge sharing platform is at evaluation stage.					hosted on the UNDP-Mauritius and Seychelles website. UNDP communications team is in the process of preparing the landing page on the country website.
Output 3.2.2 Reef Restoration ~~tool kit and~~ manual for use in the WIO published and disseminated	47/ Reef Restoration Manual developed	2 (1 for Seychelles and 1 for WIOMSA)	Feedback received during the PNCC meetings in Mauritius and Seychelles was that it was too early in the Project to produce an updated manual outlining best practice guidance. On this basis, the preparation of this guidance document / manual will be produced later in the Project based on findings (Deliverable 4.2 as per CTA contract)	Updated Reef Restoration Manual drafted	Reef Restoration Manual updated, revised and published online		MS	Since the Project Document was written, there have been several best practice guidelines produced (see CTA Deliverable 4.1). It was therefore decided to wait to later in the project to develop this guide which would then incorporate the findings of the project's restoration work The template has been prepared by the CTA. Inconsistency between tool / kit & manual – refer to as manual throughout
Outcome 3.3 Regional capacity developed for sustainable and climate resilient coral restoration								
Output 3.3.1 Regional training programme on reef restoration in place, possibly with an associated Certificate of Competence	48/ Number of *members* from Mauritius and Seychelles trained in coral reef restoration methods, with particular attention given to increasing female participants/beneficiaries from the capacity building activities	0	In Seychelles - 15 people (female) were trained on different aspects of ecosystem rehabilitation, coral restoration and enhancement of guest related activities In Mauritius- 10 trainers were trained on the construction of	At least 7 Gender disaggregated data will be collected. Beneficiaries: representative of the WIO region countries involved in coral reef restoration	At least 20 Gender disaggregated data will be collected). Beneficiaries: representative of the WIO region countries involved in coral reef restoration		MS	Microfragmentation training scheduled for 2024 Not clear if this alos relates to training on coral framing and transplantation. Which is not budgeted for

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
			rope and table nurseries, of which 4 were female.					
Output 3.3.2 Regional training workshops undertaken on monitoring, DNA based approach for the identification of resilient corals, genetic connectivity and other topics as appropriate **3.3.3.**	49/ Number of members from Mauritius and Seychelles trained in advanced coral genetics including clade analysis, with particular attention given to increasing female participants/beneficiaries from the capacity building activities	0	Training planned for 2022.	At least 10 participants Gender disaggregated data will be collected. Beneficiaries: MBEMRFS, SNPA, Nature Seychelles, MCSS and some participants from the WIO region who are doing active in coral restoration work in the region.	At least 20 participants Gender disaggregated data will be collected. Beneficiaries: MBEMRFS, SNPA, Nature Seychelles, MCSS and some participants from the WIO region who are doing active in coral restoration work in the region.		MS	Delayed Regional workshop on coral genetics rescheduled to June 2024
Output 3.3.3. Sustainable long-term monitoring programme	50/ Regional Coral Restoration Plan including national component and long- developed and underway for restored reefs, based on international/regional protocols and best practice term monitoring programme	0	0	Draft Regional Coral restoration plan developed	Regional Coral restoration plan developed and validated by the Project Steering Committee and adopted by both countries		MS	Scheduled as from 2024 / 2025 No considered a priority. National level plans more useful and Seychelles has Strategic Coral Reef Action Plan, Recommended to produce Sustainability / Exit strategy instead.
	51/ Participation in regional and scientific international forums	0	0	0	Participation at least 1 relevant regional/international forums	n/a	n/a	To be scheduled once research papers are completed
	52/ Regional studies on wave pattern, beach erosion and mapping	0	Planned from 2022 when equipment are procured	At least 5 surveys (one in each site) by mid project	At least 10 by the end of the project.		S	The surveys partially completed for all sites Q4 2023; oceanographic surveys have been completed but beach erosion and mapping surveys have not yet been completed –

Output	Verifiable Indicators	Baseline[42]	Level in 1st PIR	Mid-term Target[43]	End of Project Target	Mid term level & assessment	Achievement rating	Justification for rating
								pending completion of drone manual Delayed and were not used to informed selection of nursey sites as planned

5.4 Annex 4: Overview of budget inconsistencies and proposed solutions

REF	ISSUE	PROPOSED SOLUTION
General	Project extension of 1 year	Staffing costs for Mauritian team estimated at USD 80,000 per annum. Budget will be available under budget code 71400 under components 3 and 4 to meet the staff costs given that the project has been operating with less staff resources and salaries have been aligned at UNDP Office such that the cost will be lower for new Project Managers and Associates recruited. Need to consider tailored support from Seychelles PM/UNDP and APs to ensure high quality outputs under Component 3.
Activity 1.3.2.3 – *Updating the inventory of corals in Mauritius and updating the booklet describing the corals of Mauritius and Rodrigues*	***UNDER BUDGETED*** The inventory of corals and production of the booklet were to be in-kind contribution from Government of Mauritius. The project did not include an allocation for field work for sampling corals, only an allocation of around USD 20K for publication of the Coral Inventory Booklet.	Proposed to recruit a local consultant to produce the document and a coral taxonomist to review/foreword it. The NGOs in Mauritius and Rodrigues could be involved in the sampling under the guidance of the national consultant against payment as appropriate. This would be funded through a move to an online publication, saving USD 20 K and re-allocations under component 1 *budget item 72300 (budget line 6(i)) - "consumables for water quality monitoring." of around USD30,000*
Output 1.2.3 A land-based nursery and 2 or more ocean nurseries established and maintained on a regular basis - Land-based nursery at AFRC for sexual propagation of corals	**UNDER BUDGETED** The available budget under the UNDP/AF – Coral Restoration project and Government of Mauritius co-financing under NECCF are as follows: (i) UNDP/AF- Coral Restoration project: Materials for setting up land-based nursery – USD 56,099 or approx.. **MUR 2,541,285.** (ii) GOM/NECCF: Consultancy and works for the setting up of the land-based nursery – **MUR 4 M** The total available **budget is around MUR 6.2 M** for the setting up of the land-based nursery for sexual propagation of corals at AFRC. The cost estimates provided in the feasibility report, estimate **it will cost more than MUR 44.9 M if the cheapest option is selected.**	It seems that the requirements and hence costs for such activity have been hugely underestimated. During meeting consultant (**LUX CONSULT LTD** agreed to reduce scope of project as Ministry is providing a laboratory for coral spawning and this is expected to reduce civil works costs and the buildings adjacent to the nurseries will be removed from the costing. The Ministry of Finance will also explore additional resources in case need arise.

REF	ISSUE	PROPOSED SOLUTION
Output 1.2.3. A land-based nursery and 2 or more ocean nurseries established and maintained on a regular basis. / Output 1.2.4 Stock of farmed corals available for transplantation	COST ESCALATION / UNDER BUDGETED In Mauritius and Rodrigues communities are involved in the construction of nurseries, cultivation of corals, maintenance and transplantation. Due to bad weather and sea conditions the number of outings by beneficiaries has increased. Also, the capacity of work for some community members at sea is lower than estimated. Moreover, materials and equipment for transplantation have not been catered.	*Reallocation from 72300 (budget item 6(i)): "consumables for water quality monitoring"* Resources be re-allocated to the NGOs for the following activities: • Allowance to beneficiaries for coral restoration activities – USD 55,000 from 72300 – to be re-allocated USD 21,000 each to Reef and EcoSud and USD 13,000 to Shoals (ratio of area harvested 1.6 ha for Reef and EcoSud and 1 ha for Shoals) • Materials and equipment for transplantation – USD 10,000 to buy 1 pneumatic drill. There is provision for 2 drills in the prodoc. But since we have 3 NGOs one more is required. re-allocated from "Materials and goods from current temporal study" as savings are envisaged. • Other contingent items – e.g. equipment for controlling algae in Rodrigues – as per Shoals Rodrigues they can now hire this equipment so no need to buy.
Component 1 and Component 3 -	Addition Budget needed to address staff constraint at MOI to conduct current pattern surveys and GIS profiling and future genetic analysis work.	Proposal endorsed at PNCC Mauritius held on 5 September 2023 to have external assistance to support MOI and (*to be approved in PNCC Seychelles of 28 September 2023*). But there is an issues with insurance of equipment UNDP to recruit 1 or 2 **local Individual Contractors** (ICs) to assist the project for the following:- • current pattern surveys, GIS mapping and modelling for Mauritius, Rodrigues and Seychelles (to be recruited as soon as possible over the next 2.5 years. AFRC, MOI and NGOs will also work with the consultant. • Assist the team with the genetic analysis of corals for propagation in the land-based nursery (for 1 year once the DNA analysis is completed)
Components 1 & 2	**UNFORESEEN RISK MITIGATION COST** Risks associated with the ongoing El Niño event and high possibility of a marine heat wave and coral bleaching in the Indian Ocean during the summer of 2023/2024 and possibly 2024/2025. In case this happens, the corals being propagated in the nurseries and outplanted on the reef could bleach and possibly die. This may impact on both Activity Partner and Project targets. A contingency plan is therefore needed to help Activity Partners address this possibility.	Proposals being developed by some APs/NGOs, and are time sensitive. At PSC meeting of 27 Oct 2023, it was agreed to re-allocate some of the resources from documentary film development towards development of the Coral Bleaching Contingency Plan in view of the threat posed by EL Nino. In addition, it has been suggested that resources allocated to Development of Coral Reef Restoration Plan (around USD 60,000) to be used for the Contingency Plan.
Component 2: Volunteers from	**REALLOCATED BUDGET IN MOU**	PMT had discussion with NGO staff in Mauritius and Rodrigues regarding their interest to be volunteers in Seychelles and they

REF	ISSUE	PROPOSED SOLUTION
Mauritius to Curieuse Island .	The budget in the **MOU between MACCE and AP (SPGA)** does not indicate the budget for volunteers. It has been re-allocated to personnel costs. **Budget item 10:** Incentives for 2 volunteers and housing for 6 months 500*6*2 + 2000*5=USD 15,000 **Budget Item 14**: Air ticket for 2 volunteers from Mauritius for Curieuse island =2*500*5 = USD 5,000 Moreover, due to COVID, volunteers were not able to travel and thus this activity could not be implemented.	indicated that the duration should be at most for 1 month. If 1 staff from each NGO, the cost per staff will be as follows:- Travel – USD 700 Housing –SPGA has confirmed that it would provide housing in Curieuse. As per SPGA, they can provide SCR 250 per day, i.e USD 18 per day. **Proposal: 1 instead of 2-month exchange with Mauritians going to Seychelles and Seychellois coming to Mauritius** _For Mauritians travelling, there could be re-allocations under component 3 to cater for the travel and other expenses. _Re-allocations from comp 3 to see if at least 2 staff can come to Mauritius – need to cater for travel, cost of lodging (unless NGO can host them) and allowance
Activity 3.2.1.1 – Creation and maintenance of project website	**UNDER BUDGETED** **Budget** – Website manager for hosting and monthly maintenance (USD 25,000). Company for documentary film development (USD 235,629) No funding for creation of website and development of platform. So far expenditure under this component has been incurred for development of Brand Manual and Website consultant for prepare TOR.	Approved by PNCC Mauritius and Seychelles Instead of launching a tender for a 3rd time, it was proposed that the USD 40,000 be re-allocated for the Communication Teams of the UNDP CO to produce a webpage in the UNDP website dedicated for the project where all the reports and documents could be uploaded. Moreover, UNDP will assist in the creation of videos to upload on the website. UNDP CO will also maintain this website and assist in the production of communication materials and video production as required under the project. Advantage – more cost effective and sustainable as given this is a regional DIM project and once the project closes there is no specific entity to maintain the project website.
Component 3: Workshops and trainings	**UNDER BUDGETED** **Regional/National Coral Reef Restoration Plan – 2 workshops** – provision for only travel under budget line 26. Non-budgeted items • Provision for Organization of 2 Regional workshops on coral restoration plan under budget No. 24 • Provision for DSA for the 2 local experts attending the RRP workshop **Completion Workshop** – provision for organization of completion workshop under budget line 24 Non-budgeted items • Cost for Participants from SEY/MRU, ROD, CTA and consultants **Regional Workshops**	**Proposal:** to consider re-allocations under comp 3 to cater for these unbudgeted activities or how joint activities could be conducted.

REF	ISSUE	PROPOSED SOLUTION
	• Budget item 24 mentions - **Organization of workshop in relation to reef restoration methodologies, concept and practices** but no budget allocated • Multi-Year Workplan and PRF – Under output 3.3.1 – **Regional training programme on reef restoration in place,** possibly with an associated Certificate of Competence • Activity 3.3.1.2 – **Regional training on coral farming and transplantation in Mauritius** However, no funding allocated for the organization of workshops and travel of participants.	
Travel for RSAC to attend in-person meeting	**UNDER BUDGETED** Budget for travel and DSA of RSAC members – only for one travel. Travel budget for RSAC members much higher than estimated The ProDoc envisaged that the Coral Specialist Group CORDIO would chair the RSAC. It is to be noted that there is no budget allocation for the role apart from minimal travel budget.	Proposed that RSAC are engaged remotely through regular calls and establishment of whatsapp group for rapid technical support. Budget for in=person meeting needs to be determined – may not require all members travelling.
Comp 3: Micro-fragmentation	UNDER BUDGETED (i)Training for Micro-fragmentation : USD 4,000 (ii) Workshop & venue: USD 8,600	(i)Training for Micro-fragmentation : USD 10,000 (ii) Workshop & venue : USD 9,500 Re-allocation by USD 6000 to consider (i) from budget item 16 (72100) and USD 900 from 71600
Comp 3: Current Pattern Surveys and Beach Profiling	Activity 3.3.2.1 – Carrying our spatio-temporal study of the coast at the restoration sites to monitor long term impact of restoration work. Activity 3.3.2.2 – Carrying out the current pattern for Mauritius, Rodrigues and Seychelles. PRF- regional studies on wave pattern, beach erosion and mapping **Budget Lines** • 18 – Cost of contractual appointment to carry out biannual beach profiling and GIS mapping in Seychelles (USD 128,000) • 26 (iii)(d) current pattern – USD 59,760 – 3 staff for 7 days for 2 years + ferry allowance • *No provision for transportation of equipment, logistics for field surveys and consumables for Seychelles survey missions.* • *For current pattern surveys – given that there are 3 locations – Anse Forbans near Mahe, Curieuse Island and Cousin Island – 7 mission days per mission would be insufficient for the MOI staff. At least 12 days are required to conduct the surveys at these three Project sites, taking into consideration travel time from one place to another.*	Given the limited budget allocation, initially it was planned that since MOI staff have been provided training for beach profiling and equipment bought under the project, they will do the beach profiling also for Seychelles, along with current pattern surveys. However, MOI is facing several constraints due to the departure of several staff members who were supporting the project. International consultancy to do the work would be very costly. *For transportation of equipment, logistics for field surveys and consumables for Seychelles survey missions – budget item 72300 under component 3 could be used.* *It is also to be noted that staff allocation to APs in Seychelles to assist MOI staff has also been made under component 3 budget item 72100 for USD 12,000.*

REF	ISSUE	PROPOSED SOLUTION
CTA position	UNDER BUDGETED	Over and above mid-term review, the project makes provision of USD 50,000 for an international M&E consultant. Given that the CTA monitors progress of project activities in Mauritius, Rodrigues and Seychelles, possibility/justification for these resources be allocated to the CTA. Additional man-days for the CTA will improve the following: • Monitoring of the technical indicators of APs/NGOs • Support of the construction of land-based nurseries and sea-water pumping • Coordination with RSAC members and other experts in each specific field to ensure up-to-date knowledge to project partners
Other non-budgeted or under budgeted items	UNDER BUDGETED Audit fees - underbudgeted Insurance and Maintenance for Oceanography Equipment – not budgeted	(i) For Audit fees – component 3 – budget item; (ii) For Insurance and maintenance –currently savings from Equipment budget 72800 under comp 3 is being used. This is because the amount of equipment bought was lower than budgeted amount as some equipment of MOI (e.g. CTD+) are used for the project. This has freed some resources with which the insurance can be paid.

5.5 Annex 5: Ratings Scales

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of- project targets, without major shortcomings. The progress towards the objective/outcome can be presented as "good practice".
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets.
Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as "good practice".
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.
Ratings for Sustainability: (one overall rating)		
4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

5.6 Annex 6: MTR mission itinerary

Date	Day	Time	Venue	Participant(s)
6-Nov	**Monday**	**IC departs from London**		
7-Nov	**Tuesday**	**IC arrives in Mauritius**		
8-Nov	Wednesday	09.15-10.30	MOF Office	Ms R. Ramsurn
		11.00-12.00	MESWMCC Office	Ms H. Ramdour
		15.00-16.30		Dr J.L. Azie Ms F. Boolakee
		16.30-18.00	UNDP Office	Ms A. Serumaga
9-Nov	Thursday	09.30-11.00	MOI Office	Dr D. Marie
		11.00-12.00		Mr S. Curpen Dr D. N-Dummur
		12.00-12.45		Mr O. Gooroochurn
		15.00-15.30	UNDP Office	Mr M. Hansa
10-Nov	Friday	09.30-10.30	MOF Office	Mr V. Ramkelawon MS N. Codadeen
		14.00-15.00	Remote (Google Meet)	Ms J. Kwok Mr J. Chellapen
IC and NC depart for Rodrigues				
13-Nov	Monday	09.15-10.00	SEMPA Office	Mr J.R. Pierre Louis
		10.30-12.00	Site Visit to SEMPA	
		14.00-14.30		Beneficiaries
		15.00-17.30	SHOALS Office	Mr R. J-Khan Ms A. Espiegle
14-Nov	Tuesday	13.00-14.00	RRA Office	Mr C. Botsar
		IC and NC return to Mauritius		
15-Nov	Wednesday	09.00-10.30	LUX Consult Office	Dr D. Vaitilingom Mr K. Gokulsing Ms V. Beeslall
		11.00-12.00	Desai Associates Office	Mr J.Desai
		13.30-15.00	MOF Office	Ms R. Ramsurn
16-Nov	Thursday	09.30-10.30	EcoSud Office	Dr P.K. Chumun Mr M. Vinayayanidhi
		11.00-12.00	Site Visit to BBMP	
		12.30-13.30	EcoSud Office	Beneficiaries
		15.00-16.30	Reef Conservation Office	Mr S. Bacha Gian
17-Nov	Friday	09.30-12.00	Reef Conservation Office	Beneficiaries
		13.30-15.00	MBEMRFS Office	Mr V. Emrith Mr R. Francois
		16.00-17.15	Remote	Dr J.L. Azie Ms F. Boolakee
IC and NC depart for Seychelles				
20-Nov	Monday	09.00-10.30	Nature Seychelles Office	Dr N. Shah Ms K. Henri Mr S. Ramkalawan
		11.00-12.30	Botanical Gardens	Mr D.R. Thomas Ms M.C. Ndeye

				Ms P. Sushil-Nair Ms M. Benoit
		14.20-15.00		Mr D. Matatiken
21-Nov	Tuesday	10.00-12.00	Site Visit to Curieuse MNP	
		13.00-17.30	CORAL Office	Mr L. Saponari Ms C.Dale Ms L. Fourie Ms M. Marie
22-Nov	Wednesday	11.00-12.00	Cousin Island Special Reserve	Mr J.T. Mahoune Ms A. Fanchette Ms. S. Padayachy
23-Nov	Thursday	09.00-11.00	SPGA Office	Mr A. Cedras Mr R. Bonne Ms N. Dorby Ms S. Berlouis Ms L. Hoareau
		11.30-12.00	PDCS	Ms E. Valentin
		12.00-13.00		Ms V. Allis
		13.30-15.00	Site Visit to St Anne MP	
		13.30-15.00		Ms N. Andrews Ms L. Anthony Ms C. Smith
		16.00-17.00	Savoy	Mr F. Joubert
24-Nov	Friday	09.00-10.00	SEYCCAT Office	Ms M.M. Jeremie
		11.00-12.00	TNS Office	Ms H. Sims
		13.00-14.00	MCSS Office	Ms R.Somers
		14.00-14.45		Mr C. Mason-Parker
		14.45-15.15		Ms N. Andrews Ms L. Anthony
		IC returns to London/NC returns to Mauritius		

5.7 Annex 7: Consultation

5.7.1 List of persons interviewed

Online

S/N	Organization	Name of Representative	Position
1	Institut de Recherche pour le Développement (IRD)	Dr G. Lecellier	Consultant
2		Dr V. Berteaux-Lecellier	Consultant
3	UNDP	Dr R. Klaus	CTA
4		Dr P. Stock	Former RTA
5		Dr B. Rusk	RTA

Mauritius

S/N	Organization	Name of Representative	Position
1	Association of Hoteliers and Restaurants in Mauritius (AHRIM)	Ms J. Kwok	Chief Executive Officer
2	Desai Associates	Mr J. Desai	Director
3	EcoSud	Dr P. K. Chumun	Head of Scientific Team
4		Mr M. Vinayayanidhi	Scientific Officer
5		Ms M. Claire	Beneficiary
6		Ms P. Laverdure	Beneficiary
7		Ms C. Cassia	Beneficiary
8	Lux Consults	Mr D. Vaitilingon	Coral/Aquaculture Expert
9		Mr K. Gokulsing	Project Manager
10		Ms V. Beeslall	Junior Site Engineer
11	Mauritius Oceanography Institute	Dr D. Marie	Deputy Director
12		Mr S. Curpen	Associate Research Scientist
13		Dr D. Dumur-Neelayya	Associate Research Scientist
14		Mr O. Gooroochurn	Associate Research Scientist
15	MBE - Albion Fisheries Research Centre	Mr V. Emrith	Scientific Officer
16		Mr R. Francois	Scientific Officer
17	Ministry of Environment, Solid Waste Management and Climate Change	Ms H. Ramdour	Ms H. Ramdour
18	Ministry of Finance, Economic Planning and Development	Mr V. Ramkelawon	Lead Analyst
19		Mrs N. Codadeen	Analyst
20	Reef Conservation Mauritius	Mr S. Bacha Gian	Senior Research Coodinator
21		Mr H. Banee	Beneficiary
22		Mr Y. Lagaillarde	Beneficiary
23		Ms A. Goodur	Beneficiary
24		Ms A. Magon	Beneficiary
25		Ms S. Farla	Beneficiary
26		Mr J. Lagaillarde	Beneficiary
27	Rogers Hospitality	Mr J. Chellapen	Chief Projects & Facilities Officer
28	Rodrigues Regional Assembly	Mr C.Botsar	Ag Departmental Head
29	SEMPA	Mr. J.R. Pierre Louis	Project Manager
30	SHOALS Rodrigues	Mr R. Jhangeer-Khan	MWF Rodrigues Manager
31		Ms A. Espiegle	Manager & Scientific Officer
32		Ms S. Edouard	Beneficiary
33		Mr M. Jean Tienny	Beneficiary

34		Ms E. Larose Marie Jane	Beneficiary
35		Mr J. Gaspard	Beneficiary
36		Ms C. Albano	Beneficiary
37		Mr R. Leopold	Beneficiary
38	United Nations Development Programme	Ms A. Serumaga	Resident Representative
39		Mr J.L. Azie	Head of Environment Unit
40		Mrs R. Ramsurn	Former Regional Project Manager, Coral Restoration project
41		Mr M. Hansa	Procurement and Finance Officer
42		Mrs F. Lowtun-Boolakee	Gender and M&E Officer
43		Ms A. Aumeeruddy	Former Project Assistant, Coral Restoration project

Seychelles

S/N	Organization	Name of Representative	Position
1	Fisheries and Marine Consultancy Services	Dr J. Bijoux	Consultant
2	Marine Conservation Society of Seychelles	Ms N. Andrews	Scientific Officer
3		Ms R. Somers	Scientific Coordinator
4		Mr C. Mason-Parker	CEO
5		Ms L. Anthony	Scientific Officer
6		Ms C. Smith	Intern
7	Ministry of Agriculture, Climate Change and Environment	Hon. F. Joubert	Minister
8		Mr D. Matatiken	Principal Secretary Environment
9	Nature Seychelles	Dr N. Shah	CEO
10		Ms K. Henri	Projects Manager
11		Mr S. Ramkalawan	Project Coordinator
12		Mr L. Saponari	Senior Science and Technical Field Officer, Reef Rescuers
13		Ms C.Dale	Science and Technical Field Officer, Reef Rescuers
14		Ms L. Fourie	Land-Based Nursery Manager, Reef Rescuers
15		Ms M. Marie	Intern
16	Programme Development and Coordination Section	Ms E. Valentin	Senior Accountant
17		Ms V. Allis	Project Manager
18	SEYCCAT	Ms M.M. Jeremie	CEO
19	Seychelles Parks and Gardens Authority	Mr A. Cedras	CEO
20		Mr R. Bonne	Head of Marine Research
21		Ms N. Dorby	Project Officer
22		Ms S. Berlouis	Research Scientist
23		Ms L. Hoareau	Research Scientist
24		Mr J.T. Mahoune	Scientific Diver Leader
25		Ms A. Fanchette	Scientific Diver
26		Ms. S. Padayachy	Ranger
27	The Nature Conservancy	Ms H. Sims	Project Manager
28	United Nations Development Programme	Mr D.R. Thomas	National Project Coordinator
29		Ms M.C. Ndeye	Programme Operations Specialist
30		Ms P. Sushil-Nair	Programme Analyst
31		Ms M. Benoit	Project Finance and Admin Assistant

5.7.2 Inception workshop attendees

Mauritius

S/N	Organization	Name of Representative	Position
1	Association des Hotels de Charme	Mr B. Mungroo	President
2		Mr B. Mohabeer	Secretary
3	Association of Hoteliers and Restaurants In Mauritius (AHRIM)	Mr V. Aodheera	Manager -Projects
4		Ms J. Kwok	Chief Executive Officer
5	Attitude - Marine Discovery Centre	Ms N. Swensson Dubois	Scientific Programme Coordinator
6	Beach Authority	Mr Y. Jhurry	Beach Work Inspector
7		Mr H. Ramlochun	Beach Work Inspector
8	Business Mauritius	Mr V. Motee	Project Manager, SUNREF Technical Assistance
9	Department for Continental Shelf, Maritime Zones Administration & Exploration	Ms N. Pyaneandee	Research and Development Officer
10	Dinarobin Beachcomber	Ms P. Auffray	Executive Assistant Manager
11	District Council of Grand Port	Mr G. Surnam	Principal Health Inspector
12	Ecomode Society	Dr Y. Louis	Project Manager
13	EcoSud	Dr P. K. Chumun	Head of Scientific Team
14	Government Information Services	Ms Y. Sewdin Sohun	PMSS
15	Le Mauricien	Ms G. Legrand	Journalist
16	Indian Ocean Commission	Ms G. Bonne	Officer in Charge
17	The Lux Collective Ltd	Ms E. Fakun	Group Sustainability & CSR Executive
18		Mr D. Ellayah	Consultant
19	Marine Megafauna Conservation Organization	Ms S. Barteneva	Biologist
20	Mauritius Oceanography Institute	Dr R. Moothien-Pillay	Director
21		Dr D. Marie	Deputy Director
22		Mr S. Bacha Gian	Research Scientist
23		Mr O. Sadasing	Associate Research Scientist
24		Mr S. Curpen	Associate Research Scientist
25		Dr O. Pasnin	Associate Research Scientist
26		Mrs A. Audit-Manna	Associate Research Scientist
27		Mr P. Askoolum	IT Officer
28		Ms R. Boyjoonauth	Public Relations Officer
29		Mrs N. Mudhoo	Accounts Officer
30	Mauritius Scuba Diving Association	Mr H. Vitry	President of MSDA Technical Committee
31	Mauritian Wildlife Foundation	Mr V. Tatayah	Conservation Director
32	Ministry of Blue Economy, Marine Resources, Fisheries and Shipping (MBE)	Mr V. Daby	Senior Chief Executive
33		Mrs D. Moosoohur	Deputy Permanent Secretary
34		Dr N. Reetoo	Assistant Permanent Secretary
35		Mr R. Ponnan	Principal Fisheries Protection Officer

36	MBE - Albion Fisheries Research Centre	Mrs M. Koonjul	Assistant Director of Fisheries
37		Mr R. Mohit	Ag. Divisional Scientific Officer
38		Mr S. Leckraz	Scientific Officer
39		Ms Z. Dhurmeea	Scientific Officer
40		Ms D. Gopaul	Scientific Officer
41		Mrs S. Cootapen	Scientific Officer
42	Ministry of Environment, Solid Waste Management and Climate Change	Ms H. Ramdour	Ms H. Ramdour
43	Ministry of Finance, Economic Planning and Development	Mr V. Ramkelawon	Lead Analyst
44		Mrs W. Elahee Doomun	Lead Analyst
45		Ms N. Sairally	Analyst/Senior Analyst
46	Ministry of Foreign Affairs, Regional Integration and International Trade	Mr A. Koodoruth	First Secretary
47	Ministry of Tourism	Mrs L. Sanspeur	Principal Tourism Planner
48	National Coast Guard	Mr H. Cauleechurn	Inspector of Police
49		Mr J. Santokee	Police Corporal
50	Paradis Beachcomber	Ms K. Dookheea	Quality Assurance Coordinator
51		Mr R. Le Court	Villa Executive
52	Reef Conservation Mauritius	Ms K. Young	Managing Director
53	Rogers and Co. Ltd	Mr C. Nanon	Sustainability Manager
54	Rodrigues Regional Assembly	Mr J. P. Colin	Departmental Head
55	Tourism Authority	Ms S. Ghingut	Tourism Enforcement Officer
56	Trou aux Biches Beachcomber	Mrs R. Bikhari Rose	Quality Assurance Manager
57		Ms A. Gungaram	PA to General Manager
58	United Nations Development Programme	Ms A. Serumaga	Resident Representative
59		Mr S. Ramchurn	Head of Environment Unit
60		Mrs R. Ramsurn	Regional Project Manager, Coral Restoration project
61		Ms A. Heeramun	PPG Project Manager
62		Mrs F. Lowtun-Boolakee	Gender and M&E Officer
63		Ms S. Hardas	Project Assistant (Mainstreaming Biodiversity project)
64		Ms B. Mohit	Project Assistant (Engagement Facility)
65		Mr E. Veerapen	IT Officer
66		Ms A. Aumeeruddy	Project Assistant, Coral Restoration project
67		Ms S. Varaden	Finance and Procurement Assistant, Coral Restoration project
68		Mr J. Norbert	Communications Intern
69		Ms M. A. Poorun-Sooprayen	Head of Exploration, Accelerator Lab, UNDP
70	University of Mauritius	Dr S. Mattan Moorgawa	Senior Lecturer
71	Veranda Leisure and Hospitality Ltd	Mr A. Piat	Sustainability Manager

Seychelles

S/N	Organization	Name of Representative	Position
1	Department of Blue Economy	Mr C. Barbe	Principal Policy Analysis
2	Marine Conservation Society of Seychelles	Ms N. Andrews	Scientific Officer
3		Ms R. Somers	Scientific Coordinator
4		Mr L. Barret	Project Leader
5	Ministry of Agriculture, Climate Change and Environment	Hon. F. Joubert	Minister
6		Mr A. Decomarmond	Principal Secretary Environment
7		Ms M. M. Muzungaile	Director General- BD Conservation and Management Unit
8		Mr W. Agricole	Principal Secretary Climate Change
9		Mr K. Moumou	Conservation Ranger
10		Ms I. Gamatis	Senior Project Coordinator
11		Mr M. Meme	Director – Environment Assessment and Permits Section
12		Ms D. Matatiken	Special Advisor
13	National Institute for Science and Technology	Ms C. Kamalraj	Principal Research Officer
14	Nature Seychelles	Mr N. Shah	CEO
15		Ms K. Henri	Projects Manager
16		Mr S. Ramkalawan	Project Coordinator
17	Programme Development and Coordination Section	Mr D. Romain	Project Manger PAF
18		Ms E. Talma	Programme Coordinator
19		Ms F. Molle	Financial Controller
20		Ms J. Prosper	Project Manager R2R
21	Seychelles National Parks Authority	Mr J. Mougal	Director -Research
22		Ms N. Pierre	Research Officer
23	The Nature Conservancy	Ms H. Sims	Project Manager MSPI
24	United Nations Development Programme	Mr R. Alcindor	Programme Manager
25		Ms O. Vovk	Programme Support Specialist
26		Ms P. Sushil-Nair	Project Coordinator
27		Ms M. Benoit	Project Finance and Admin Assistant
28		Ms L. Bastienne	National Coordinator SGP

5.7.3 Preliminary workshop attendees

Mauritius

S/N	Organization	Name of Representative	Position
1	AFRC	Mr. S.Sem	Scientific Officer
2	EcoSud	Dr P. K. Chumun	Head of Scientific Team
3	Mauritius Oceanography Institute	Dr D. Marie	Deputy Director
4		Mr S. Curpen	Associate Research Scientist
5		Dr D. Dumur-Neelayya	Associate Research Scientist
6		Mr M.Singh	Associate Research Scientist
7	Ministry of Finance, Economic Planning and Development	Mr V. Ramkelawon	Lead Analyst
8		Mrs E. Doomun	Analyst
9	Reef Conservation Mauritius	Mr S. Bacha Gian	Senior Research Coodinator
10	Rogers Hospitality	Mr J. Chellapen	Chief Projects & Facilities Officer
11	United Nations Development Programme	Dr J.L. Azie	Head of Environment Unit
12		Mrs F. Lowtun-Boolakee	Gender and M&E Officer
13		Dr R. Klaus	CTA
14		Mr S. Khudaroo	Finance Officer
		Ms F.S.H.Musa	Operations Manager
15		Buba Barrow	
16	Unknown	Environment	

Seychelles

S/N	Organization	Name of Representative	Position
1	MCSS	Mr C. Mason-Parker	CEO
2	Nature Seychelles	Dr N. Shah	CEO
3		Ms K. Henri	Projects Manager
4		Mr S. Ramkalawan	Project Coordinator
5		Mr L. Saponari	Senior Science and Technical Field Officer, Reef Rescuers
6		Ms C.Dale	Science and Technical Field Officer, Reef Rescuers
7		Ms L. Fourie	Land-Based Nursery Manager, Reef Rescuers
8	Porgramme Development and Coordination Section	Ms E. Valentin	Senior Accountant
9	SEYCCAT	Ms M.M. Jeremie	CEO
10	Seychelles Parks and Gardens Authority	Mr A. Cedras	CEO
11		Ms N. Dorby	Project Officer
12		Ms S. Berlouis	Research Scientist
13	United Nations Development Programme	Mr D.R. Thomas	National Project Coordinator
14		Ms M.C. Ndeye	Programme Operations Specialist
15		Ms P. Sushil-Nair	Programme Analyst
16		Ms M. Benoit	Project Finance and Admin Assistant

5.8 Annex 8 List of documents reviewed

- Approved NOM PNCC no.1 2021 Mauritius
- Approved NOM PNCC no.2 2021 Mauritius
- Approved NOM PNCC no.3 2021 Mauritius
- Approved NOM PNCC no.4 2022 Mauritius
- Approved NOM PNCC no.5 2022 Mauritius
- Approved NOM PNCC no.6 2023 Mauritius
- Approved NOM PSC 09.11.22
- AWP
- BTOR Rodrigues Jan 2021
- BTOR Rodrigues July 2023
- BTOR Seychelles Dec 2021
- BTOR Seychelles July 2023
- BTOR visit Eco Sud 01/07/2022
- BTOR visit Reef Conservatio 23/09/22
- CDR 2020
- CDR Q1 & Q2 2022
- CDR Q1 2021
- CDR Q1 2023
- CDR Q2 2021
- CDR Q2 2023
- CDR Q3 2021
- CDR Q3 2022
- CDR Q3 2023
- CDR Q4 2021
- CDR Q4 2022
- Community Development Plan – Mauritius (Annex L)
- Community Development Plan – Seychelles (Annex M)
- CRR Progress report Q1 2021
- CRR Progress report Q1 2022
- CRR Progress report Q1 2023
- CRR Progress report Q2 2021
- CRR Progress report Q2 2022
- CRR Progress report Q2 2023
- CRR Progress report Q3 2021
- CRR Progress report Q3 2022
- CRR Progress report Q3/4 2020
- CRR Progress report Q4 2021
- CRR Progress report Q4 2022
- CTA mission report 1 Mauritius and Rodrigues
- CTA mission report 1 Seychelles
- CTA mission report 2 Mauritius and Rodrigues
- CTA mission report 2 Seychelles
- Deliverable 2 stakeholder analysis Eco Sud
- Deliverable 2 stakeholder analysis Reef Conservation
- Deliverable 2 stakeholder analysis Shoals Rodrigues
- Donor Report GoM cost sharing 02/09/21
- Donor Report GoM cost sharing 30/06/22
- Donor Report GoM cost sharing 30/06/23
- Feasibility study by Lux Consults

- Field visit report 23/05/23
- Field visit report CRR event 29/10/22
- HR Plan 2023
- Inception report
- Livelihood survey report
- Multi year workplan
- NOM PNCC no.1 component 2 Seychelles
- NOM PSC 2 06.12.21
- NOM PSC meeting 26.11.20
- PIMS 5736 Prodoc signed
- PNCC meeting 05.11.21
- PNCC meeting 2 29.07.21
- PNCC meeting 3 05.11.21
- PNCC meeting 4 29.07.22
- Procurement Plan 2023
- PRR November 2020 to October 2021
- PRR November 2021 to October 2022
- RPAs
- Signed prodoc CRR ver 17.06

5.9 Annex 9: Signed UNEG Code of Conduct form

Evaluators/Consultants:

Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.

Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.

Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.

Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.

Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.

Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.

Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Must ensure that independence of judgement is maintained and that evaluation findings and recommendations are independently presented.

Must confirm that they have not been involved in designing, executing or advising on the project being evaluated.

MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Camille Bann

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at: *London (Place)* on *25 February 2024 (Date)*

Signature: _____  _____

Evaluators/Consultants:

Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.

Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.

Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.

Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.

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Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.

Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.

Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Must ensure that independence of judgement is maintained and that evaluation findings and recommendations are independently presented.

Must confirm that they have not been involved in designing, executing or advising on the project being evaluated.

MTR Consultant Agreement Form

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: ___Reshma Sunkur_____

Name of Consultancy Organization (where relevant): _____N/A_____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at ____*Port Louis, Mauritius*_____ *(Place)* on _____*23 February 2024*_____ *(Date)*

Signature: _____  _____

5.10 Annex 10: Signed MTR final report clearance form

Mid Term Evaluation Report for "Restoring Coral Reefs to meet a Changing Climate Future UNDP PIMS 5736".

Reviewed and Cleared By: Commissioning Unit (M&E Focal Point)

Name: Bibi Farzina Lowtun-Boolakee

Signature: DocuSigned by: F6A62BA1BA85419... Date: 02-Apr-2024

Regional Technical Advisor

Name: Bonnie Rusk

Signature: DocuSigned by: 2430CC77C0DE445... Date: 02-Apr-2024

5.11 Annex 11: Audit trail from received comments on draft MTR report

(Annexed as a separate file)