Annex 1.

Background information on coral reef restoration

Current global understanding of coral reef restoration and terminology

Ecological restoration[1] is defined[2] as the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed. Two types of restoration[3] can be distinguished:

- ***passive*** restoration – management actions that remove the impact of environmental stressors that prevent the natural recovery of an ecosystem, such as establishing MPAs, reducing overfishing and pollution, etc
- ***active*** restoration which involves direct interventions such as (in the case of coral reefs) coral transplantation, removal of macroalgae (seaweeds), substrate consolidation and construction of artificial habitats.

Passive restoration, also known as conservation, is generally a less expensive option than active restoration. Even where active restoration is undertaken, passive methods are essential to remove threats and stressors that will otherwise prevent the growth and maintenance of the restored reefs, and create a high risk of failure and potential waste of resources.

Coral reef restoration is a well-established science[4,5], however, it is still at an earlier stage of research and development compared to other areas of restoration ecology such as terrestrial ecology (for example for forest restoration[6]). Even after 25 years of work, the "newer" status of coral reef restoration has been the subject to scepticism on the part of some scientists. However, coral reef restoration research and implementation are have rapidly increased in the last decade as demonstrated by the work presented at the 13th International Coral Reef Symposium, ICRS (with 3 coral reef restoration dedicated sessions, a total of 49 papers and 23 posters).

One of the obstacles for scaling-up of reef restoration is that there has been comparatively little critical evaluation of their success, with most projects evaluated over only a short time. A review of 74 scientific papers using coral transplantation for reef restoration, found that only 4% of reefs were monitored for more than the recommended five years' post-transplantation, and over 50% were monitored for only one year or less. Furthermore, the most widely used indicators were growth and survival of the coral fragments (51% of studies used these only) and other ecological

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[1] The terms "restoration" and "rehabilitation" are often used interchangeably. However, rehabilitation is normally used for the full replacement of structural or functional characteristics of an ecosystem that have been diminished or lost. The term restoration is used in preference in the concept, as there remains some question as to whether it will be feasible ultimately to fully rehabilitate coral reefs using active restoration techniques, although some scientists believe it may be possible

[2] Society for Ecological Restoration International Science & Policy Working Group. (2004) *The SER International*
Primer on Ecological Restoration. www.ser.org & Tucson: Society for Ecological Restoration International. 13 pp.
www.ser.org/content/ecological_restoration_primer.asp

[3] Perrow, M. R., and A. J. Davy. 2002. Handbook of ecological restoration. Cambridge University Press, Cambridge, UK

[4] Precht WF, ed.(2006) Coral reef restoration handbook. Boca Raton: CRC Press, 291–302.

[5] Rinkevich B (2015) Climate change and active reef restoration: Ways of constructing the "Reefs of Tomorrow". Journal of Marine Science and Engineering 3: 111-127

[6] David Lamb and Don Gilmour. (2003). Rehabilitation and Restoration of Degraded Forests. IUCN, Gland, Switzerland and Cambridge, UK and WWF, Gland, Switzerland. x +110 pp.

factors are rarely addressed. Evaluation of the effectiveness of coral restoration programs should integrate ecological characteristics with socio-cultural, economic, and governance considerations to assess the efficacy of coral restoration as a tool to promote reef resilience and ensure the sustainable delivery of reef ecosystem services.[7].

Restoration of damaged reefs by transplantation of whole coral colonies or coral fragments is being increasingly shown to increase coral cover, species diversity, coral reproduction capacity and local recruitment [8]. Coral transplantation can be used to "spread" bleaching-resistant genotypes by using survivors of previous bleaching events as donor colonies[9].

Several active reef restoration methods are now available and have been tested widely[10],[11],[12]. The selection of which method, or combination of methods, is the most appropriate requires careful consideration as the appropriate choice is generally site-specific. Most efforts have been based on the use of asexually produced coral fragments, sourced from healthy coral colonies that are still present either on the disturbed reefs or on less damaged nearby reefs, or that represent "corals of opportunity": i.e., colonies dislodged through natural processes or coral fragments produced through natural processes and collected from the substratum[13]. "Coral gardening" is a two-step protocol in which coral fragments are grown in *in situ* or *ex situ* nurseries, followed by planting the nursery-grown corals onto degraded sites. Coral gardening is one of the most successful coral restoration protocols in particular when floating midwater ocean (*in situ)* nurseries are used. Midwater floating nurseries have been used with nearly 90 coral species successfully propagated in nurseries around the world[14]. Nurseries using coated metal frames of various designs (e.g. tree frames, spider frames) on which the coral fragments are attached have also been successful in many locations.

The main purpose of the nurseries is to grow coral fragments to a size that reduces mortality after transplantation onto damaged or degraded reefs. Coral transplants

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[7] Hein, M. Y., Willis, B. L., Birtles, R. A., Beeden, R., 2016. Characterising coral restoration effectiveness: a review of current limitations and challenges at a socio-ecological scale. Paper presented at Int Coral Reef Symp, Hawaii.

[8] Horoszowski-Fridman YB, Izhaki I, Rinkevich B (2011) Engineering of coral reef 572 larval supply through transplantation of nursery-farmed gravid colonies. J. Exp. Mar. Biol. Ecol. 399 (2): 162–166. doi:10.1016/j.jembe.2011.01.005.

[9] Mascarelli A (2014) Climate-change adaptation: designer reefs. *Nature*: … doi:10.1038/508444a.

[10] Edwards, AJ, Gomez, ED (2007). Reef Restoration Concepts and Guidelines: making sensible management choices in the face of uncertainty. Coral Reef Targeted Research & Capacity Building for Management Programme: St Lucia, Australia. iv + 38 pp.

[11] Edwards, AJ (ed.) (2010). Reef Rehabilitation Manual. Coral Reef Targeted Research & Capacity Building for Management Program: St Lucia, Australia. ii + 166 pp.

[12] Young CN, Schopmeyer SA, Lirman D (2012) A review of reef restoration and coral propagation using the threatened genus Acropora in the Caribbean and Western Altlantic. Bull Mar Sci 88(4): 1075–1098

[13] Ng CSL, Chou LM (2014) Rearing juvenile 'corals of opportunity' in in situ nurseries: A reef rehabilitation approach for sediment impacted environments. Mar Biol Res 10(8):833–838.

[14] Rinkevich, B., 2014. Rebuilding coral reefs: does active reef restoration lead to sustainable reefs? Curr. Opin. Environ. Sustain. 7, 28e36.
Rinkevich, B., 2015. Climate change and active reef restoration - ways of constructing the 'reefs of tomorrow'. J. Mar. Sci. Eng. 3, 111e127

have a greater chance of survival the larger they are[15]. The nurseries offer the advantage of decreased competition for resources (space, light), decreased predation, and suspension above sea-floor sediments. Coral nurseries can also be used to capture and harvest coral larvae, as genetic repositories[16] , or to grow mature breeding corals for larval production and seeding of surrounding reefs[17]. In the Caribbean, where there has been a massive reduction in live coral cover, such techniques are being widely used. Active restoration is especially important for reef-building corals that provide the bulk of the three-dimensional complexity on reefs and support critical ecological functions for many other reef-associated species[18].

The following conclusions were reached and recommendations were made at a round-table on restoration, following the formal sessions, at 13th International Coral Reef Symposium (ICRS):

- Standard operating procedures (SOPs) are needed and best management practices must be collated and disseminated
- Individual initiatives should be tailored to local situations
- Use best available science
- Capacity building and training of local communities and others, is needed, making full use of local communities where appropriate, given the labour-intensiveness of the work
- A better understanding of successes and failures to date is needed
- Biosecurity issues must be addressed – including diseases of corals, introduction of alien species, potential future introduction of modified corals
- Funding is urgently needed, recognising the current high costs involvement although these are already decreasing.

Experience of coral reef restoration in Mauritius and Seychelles

Mauritius

In Mauritius, coral restoration work has been undertaken by MOI, AFRC, MOSSNSESD, and several NGOs in collaboration with hotels.

The MOI has undertaken research on coral farming projects since 2008, investigating the survival and growth of ten coral species in land- and ocean-based nurseries[19]. A pilot project was initiated to determine the feasibility of land-based coral culture using a variety of local coral taxa. A land-based nursery and an ocean-based nursery were established at Albion.

[15] Guest JR, Baria MV, Gomez ED, Heyward AJ, Edwards AJ (2014). Closing the circle: Is it feasible to rehabilitate reefs with sexually propagated corals? Coral Reefs 33(1):45–55.

[16] Schopmeyer SA, et al. (2012) In situ coral nurseries serve as genetic repositories for coral reef restoration after an extreme coldwater event. Restor Ecol 20(6):696–703.

[17] Amar KO, Rinkevich B (2007) A floating mid-water coral nursery as larval dispersion hub: Testing an idea. Mar Biol 151(2):713–718.

[18] Drury et al. 2016. Genomic variation among populations of threatened coral: *Acropora cervicornis*. BMC Genomics: 17:286

[19] R. Moothien Pillay, S. Bacha Gian, V. Bhoyroo and S. Curpen 2012. Adapting Coral Culture to Climate Change: The Mauritian Experience. *Western Indian Ocean J. Mar. Sci. Vol. 10,* No. 2, pp. 155-167,

In 2012, with funding from the UNDP-GEF-SGP, MOI initiated a small scale reef restoration project with the NGO ELI Africa[20]. During the implementation phase (2013-2014), the MOI jointly with ELI-Africa cultured up to 3000 selected coral fragments at Trou aux Biches, which were later transplanted to recipient reef sites. After providing suitable training in coral farming, MOI handed this over to ELI-Africa. The NGO Eco-Mode is also undertaking related activities.

Multi-layered rope nurseries were established at Albion and Flic en Flac in 2012 and at Trou aux Biches in 2013 using nine coral species. After 8-14 months, the nursery grown corals were transplanted to artificial reef restoration modules (ARRMs). Highest survivorship was recorded for the Pocilloporidae family. Growth rates did not differ significantly between nursery grown corals and transplanted corals. Predation by fish and *Drupella* snails and algal overgrowth were the main causes of coral mortality at the nurseries and ARRMs; although volunteers and other partners were trained to inspect, clean and regularly remove parasites, at Trou aux Biches which was the main community site this was not undertaken regularly.

According to surveys carried out in 2014, the survival rates of planted corals were over 75% at Albion (3 years after plantation), over 65 % at Flic en Flac (2 years after plantation) and over 35% at Trou aux Biches (1 year after plantation)[21].

A joint MOI and University of Mauritius (UoM) study looked at the effects of artificial feeding and environmental conditions on the *in situ* growth of cultured coral fragments in 2010 and involved the fish farm at Point-aux-Feuilles where nutrient levels are high. Notwithstanding their slow growth, corals may exhibit high calcification rates in such nutrient-rich environments (Shafir & Rinkevich, 2008, 2010) , which might be associated to the coral survival in the region closer to the fish farm (Nazurally, unpubl. data).

AFRC set up a pilot coral nursery at Albion in 2008, and following successful coral growth, colonies were attached to small basal tables made of PVC and placed on reefs at Albion, Pointe aux Sables and Trou aux Biches in 2011. According to an AFRC report, the survival rate of planted corals was ca. 50 % after 2 years[73] In 2013, AFRC placed large galvanised iron basal tables, holding up to 96 coral fragments each, at Balaclava Marine Park, Trou aux Biches and Blue Bay Marine Park (600 coral fragments). In future plans, the same type of large basal tables will be set at Ile aux Benitiers, Pointe aux Sables, Albion, Bel Ombre and Mon Choisy.

Under the *UNDP/AFB Climate Change Adaptation Programme in the Coastal Zone of Mauritius*, which is aimed at combating beach erosion and flood risk in three coastal sites, there is a pilot project on coral farming at Mon Choisy, underway through MOEMRFS.

The JICA supported project on *Capacity Development in Coastal Protection and Rehabilitation in the Republic of Mauritius* (2012-2015) developed coastal conservation plans for 14 sites where there is significant coastal erosion, and recommended reef restoration for five of these sites. In addition, a Reef Environment Conservation Plan was prepared which is being implemented by

[20] Moothien-Pillay, R., BachaGian S and Nicolas, A.2014. Community-based Rehabilitation Project, Trou-aux Biches. Final report to UNDP-SGP

[21] JICA 2015. Reef Environment Conservation Plan. Chap. 6. Final Report. The Project for Capacity Development on Coastal Protection and Rehabilitation in the Republic of Mauritius

the Fisheries Division, coordinated by the MOSSNSESD with stakeholders including Fisheries Division, MOI, and NGO's.

Following the Study on Coastal erosion in the Republic of Mauritius (2003), 7 concrete block modules were placed in the Flic en Flac lagoon by the Beach Authority, MOSSNSESD, Fisheries Division, NCG and NGO on a pilot basis, to provide a substratum for coral larvae to settle and grow. Monitoring of the modules was undertaken by the Fisheries Division and successful coral larvae settlement was recorded. A full scale project was initiated by the MOSSNSESD in 2010, involving the placement of 60 concrete modules in the lagoon of Flic en Flac under the supervision of the Fisheries Division. Follow up monitoring showed that coral larvae successfully settled on the concrete blocks.

There are several NGO initiatives. WiseOceans is working with the Four Seasons Anahita Hotel to initiate a coral garden project that will use tree frames[22]. Under the Australian Aid Blue Economy Challenge, a potential project is being developed with the private sector to develop a coral farming facility in collaboration with the hotel sector. Reef Conservation is monitoring the trial sites that have been established at Balaclava as well as trial cement blocks with corals attached that have been put in at Albion by AFRC. Reef Conservation is also planning a reef restoration initiative in one of the Voluntary Marine Conservation Areas. Eco-Sud has submitted a proposal to the UNDP-SGP for coral farming in Blue Bay.

On Rodrigues, the NGO Shoals Rodrigues has undertaken some small scale restoration work on a reef that had suffered anchor damage Jean Tac in Anse Aux Anglais Marine Reserve. Some other initiatives were undertaken under a project led by Ministry of Fisheries with the support of the RRA for the planting of coral using metal tables whereby some coral settlement trials have been undertaken in SEMPA. The RRA has also undertaken some restoration work in the eastern lagoon at Anse Ally with the support of the fisher community.

Seychelles

Active reef restoration activities in the Seychelles are underway through Nature Seychelles, Seychelles National Parks Authority (SNPA), a community-based effort by the NGO Marine Conservation Society of Seychelles (MCSS) and an NGO-hotel collaboration.

With funding from the USAID Development Grant Program (DGP) and the GEF, Nature Seychelles established the four-year Reef Rescuers project, which started in 2011. The aim of the Reef Rescuers project was to test the feasibility of large-scale coral reef restoration, defined as more than 10,000 corals grown in nurseries and transplanted in a single project. The "coral gardening" method was used [23]. First, coral fragments were raised in underwater nurseries. Second, after reaching a target size, the nursery corals were harvested and transplanted onto degraded reef areas. This project was

[22] http://fourseasonsreefaction.com/about/

[23] Rinkevich B. 2006. The coral gardening concept and the use of underwater nurseries; lessons learned from silvics and silviculture. In: Precht WF, ed. Coral reef restoration handbook. Boca Raton: CRC Press, 291–302.

transformative in terms of number and species of corals transplanted and the size of the restored reef.

The restoration project included a nursery site and a reef transplantation site at the Cousin Island Special Reserve. Nurseries were filled with thumb-sized coral fragments (nubbins) obtained from corals of opportunity (corals dislodged due to anchor damage or storms) and donor corals that survived the 1998 mass coral bleaching event due to the coupling of the El Niño and the Indian Ocean Dipole[24,25] as well as the 2004 Indian Ocean Tsunami[26] (Jackson et al., 2005). The nursery site, located on the north-west side of the island at approximately 1 km from the nearest coral reef, included 12 mid-water nurseries: 9 rope nurseries and 3 net nurseries. Rope nurseries[27] were used to grow branching and tabular corals. Net nurseries[28] were used to grow massive and encrusting corals. A total of 32 different coral species were used in this project. Each mid-water rope nursery consisted of 5 high-pressure PVC pipes (HP PVC), 600 × 64 mm in size, placed approximately 4 m apart, to which 20 m-long ropes were perpendicularly attached. Each rope held 80–150 corals, totaling approximately 5,000 corals in each rope nursery. Each mid-water net nursery consisted of a 6 m × 6 m frame constructed from PVC pipe, layered with a recycled 5.5-cm-mesh tuna net and contained approximately 480 coral fragments. All nurseries were attached to the 17 m-deep sandy seabed by anchor lines and maintained at a depth of 8 m below the sea surface by using recycled plastic jerrycans filled with air as buoys. After a 1-year growth period in the nurseries, branching and tabular corals reached a football size (roughly 22 cm wide) and were transplanted onto the degraded reef.

To ensure a resilient coral reef "the tortoise and the hare" fable strategy was used and two types of coral growing forms were seeded in the nurseries: slow growing massive and encrusting corals (the "tortoise") and fast growing branching and tabular corals (the "hare"). Slow growing corals are more tolerant to variations in environmental conditions and provide structure over the long term. Fast growing corals are more sensitive to changing environmental conditions but recover quickly and build structure in the shorter term. A total of 32 different coral species were selected and grown in the midwater nurseries (Fig. 1).

The reef transplantation site, located on the south-west side of Cousin Island, consisted of a degraded coral reef affected by the 1998 mass coral bleaching event. At this site, a gentle slope (roughly 25◦) extends to a depth of 13 m.

[24] Spencer T, Teleki KA, Bradshaw C, Spalding MD (2000) Coral bleaching in the southern Seychelles during the 1997–1998 Indian Ocean warm event. Marine Pollution Bulletin 40(7): 569–586.

[25] Spalding MD, Jarvis GE (2002) The impact of the 1998 coral mortality on reef fish communities in the Seychelles. Marine Pollution Bulletin 44: 309–321.

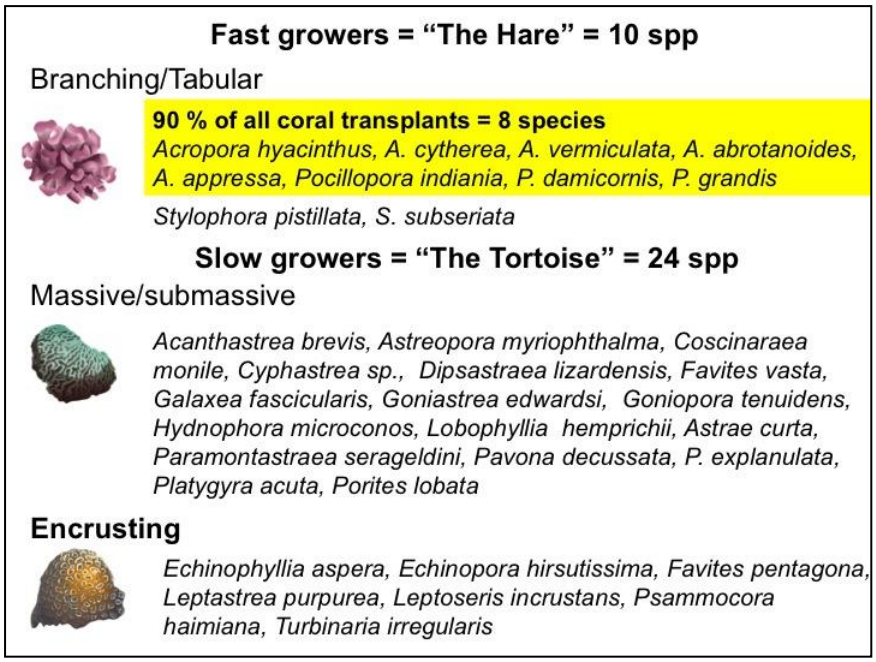
[26] Jackson LE, Barrie JV, Forbes DL, Shaw J,Manson GK, Schmidt M. 2005. Effects of the 26 December 2004 Indian Ocean tsunami in the Republic of Seychelles. Report of the Canada UNESCO Indian Ocean Tsunami Expedition, 19 January–5 February 2005. Geological Survey of Canada, Open File 4539, 73 p.

[27] Frias-Torres S, van de Geer C. 2015. Testing animal-assisted cleaning prior to transplantation in coral reef restoration. PeerJ 3:e1287.

[28] Frias-Torres S, Goehlich H, Reveret C, Montoya-Maya PH. 2015. Reef fishes recruited at midwater coral nurseries consume biofouling and reduce cleaning time in Seychelles, Indian Ocean. African Journal of Marine Science 37 (3): 421- 426

The seabed then flattens out and consists of a mixture of sand and coral rubble interspersed with granite outcroppings. The coral colonies grown in the midwater rope nurseries were transplanted to this degraded reef.
The corals grown in the net nurseries were used to restore a degraded reef at a hotel resort. Nature Seychelles secured funding from the GEF-Small Grants Program and collaborated with the Constance Lemuria 5 star resort in Praslin Island to restore a coral garden in Anse Kerlan. A team of 4 international scientific divers recruited for the project worked for 1.5 months intensively, to transplant 2,015 nursery-grown corals of branching, massive and encrusting species to a degraded path reef, 1-3 m deep.
In both cases, (Cousin Island and Praslin Island), the nursery grown corals were cemented to the natural substrate after the point of contact on the substrate was scrubbed clean of algae and sediment. From an initial nursery stock of 40,000 corals, 7,500 were lost in freak events: a hurricane (5,000 corals) and an invasive sponge (about 2,500 corals). From the final working stock of 32,500 corals, a total of 24,431 corals were transplanted between 2012 and 2014. Therefore, coral survival from insertion in the nursery as a nubbin to cementation in the coral reef was 75.2 %. A total of 5,225 km^2 (0.5 hectares) of degraded reef were restored at Cousin Island Special Reserve[29].

Figure 1. *Coral species grown in midwater ocean nurseries during the Nature Seychelles Reef Rescuers project.*



The labor force for the work was provided by a senior team of 3 experts hired for the project and international scientific divers joining as volunteers that rotated every 3 months. All participants were trained through a full-time six-week classroom and field based training program. A Toolkit in coral reef

[29] Montoya-Maya1 PH, Smit KP, Burt AJ, Frias-Torres S. (2016). Large-scale coral reef restoration could assist natural recovery: a case study in Seychelles, Indian Ocean. *Nature Conservation*

restoration was produced and used for the training[30]. Standardized protocols are being used to monitor the survival, reproduction, recruitment and bleaching response of donor and transplanted colonies, at the transplantation site and two control sites, one of which is a healthy and the other a degraded coral reef.

By 2014, there had been a 700% increase in coral cover, from about 2% in 2012 to 16%, and a five-fold increase in fish species richness, a three-fold increase in fish density, and a two-fold increase in coral settlement and recruitment at the transplanted site. The coral transplants also responded better to stressful conditions resulting from increased sea temperatures and a harmful algal bloom than corals that had remained in situ. The transplanted corals appear to recover faster and better than corals at other sites. However, the global bleaching event that started in 2014 and continued through to April 2016, has caused significant bleaching but is providing an invaluable opportunity to determine the effectiveness of the choice of coral reef species and the methods used.

The SNPA initiative, supported by the UNEP project *Building capacity for coastal ecosystem-based adaptation in SIDS*, has involved the establishment of a nursery with capacity to produce about 9,000 coral colonies every 6 months in Curieuse Marine National Park. Following the 2015-2016 bleaching event, over 8% of corals in the nursery bleached and died, but this provides an opportunity to identify the more resilient corals and to use these for future propagation. A survey will be undertaken in to document the impact of the bleaching event and to identify pockets of resistant corals. Ultimately corals will be transplanted to 3 coral reef sites around Praslin Island (two within Curieuse Marine National Park and one outside, and through an extension to the project, the capacity of the nursery will be increased by about 50%.

The NGO Anba Lao and SNPA will use the Curieuse Marine National Parks, Ile Cocos Marine National Parks and Port Launay Marine National Parks as pilot sites to test 2 methods to promote survival of coral recruits once they have settled on rubble and macro-algae dominated reefs, classified as non-resilient reefs, by stabilising rubble and removing macro-algae. The partnership with SNPA ensures that the work is of benefit to socio-economically important reef sites upon which many people are dependent for their livelihoods; and boat charter operators will be involved.

Several hotels have initiated small projects to restore reef habitat for the benefit of tourists. A coral garden was created at the Hotel Lemuria on Praslin, with the technical support of Nature Seychelles. Nature Seychelles is developing a similar initiative with the resort on Cousine Island. The Marine Conservation Society of Seychelles (MCSS) is undertaking a coral restoration project with a PhD student, in partnership with the Cerf Island Resort and the Cerf Island community. Fragments and "corals of opportunity" are collected and attached to frames in a nursery and survival rates are being compared; as elsewhere, these have been affected by bleaching but the monitoring will continue.

At the Four Seasons Resort Seychelles, at Petite Anse on Mahe, a project to restore 10,000 m^2 of degraded reef is underway with the technical assistance of the NGO WiseOceans and support of MECCE. The aim is to grow 16,000 coral fragments

[30] Frias-Torres S, Montoya-Maya PH, Shah N.J (Eds.) 2015. Coral Reef Restoration Toolkit: A Field-Oriented Guide Developed in the Seychelles Islands. Nature Seychelles, Mahe, Republic of Seychelles.

(the majority coral of opportunity) in an in-situ nursery of rebar arches that has been constructed. Awareness raising is a central component of the project, and the reef restoration project is used in marine education programmes for guests and the wider community

Under the Adaptation Fund project, *Ecosystem Based Adaptation to Climate Change* the coastal protection ability of the degraded fringing coral reef at North East Point on Mahe is being enhanced by clearing rubble and building a submerged breakwater in the reef crest surf zone to protect the reef and to provide a substrate for coral colonization.

Current Coral reef restoration methods targeted for Mauritius and Seychelles under this project

Site Selection

Scoping studies and technical assessments will be undertaken to identify the specific nursery and restoration sites within the MPA sites selected, species for propagation and appropriate approaches and methodologies. In each country, these activities will be closely co-ordinated and dependent on the work undertaken in Component 3. Studies will be undertaken at potential restoration sites to determine their suitability in terms of water quality, health of existing reefs etc. Selection criteria for specific nursery, transplantation and control sites sites will be developed and implemented based on previous experiences, bearing in mind the key principle that the restoration efforts have the objective of helping to increase food security and/or shoreline protection. Coral reef status and water quality will be assessed at potential sites for nurseries and transplantation and GIS mapping will be used to help identify suitable sites, as well as locations for obtaining donor coral colonies. Some mapping of reefs has been initiated in Seychelles e.g. an atlas of shallow marine habitats around Praslin Island is being prepared by SNPA, and post-2016 bleaching assessments are underway around both Praslin and Mahe to identify areas of resilient reefs that could potentially provide coral fragments for restoration work. Previous work in Mauritius (e.g. at the Mahebourg Fish Farm and Blue Bay[31]) has started to provide an understanding of the critical factors for nurseries (e.g. bathymetry, distance from shore, currents, existence of predators, human threats etc). For transplantation sites, an important consideration is the extent to which the area is protected and free from human interference: best practice guidance is that transplant sites should be within an MPA and ideally within a no-take zone. However, the involvement of communities and NGOs, rather than relying solely on MPA staff who may have other duties, may be equally important.

Coral gardening: Nursery and transplantation phases

A resilient coral reef is often described as “the tortoise and the hare” fable, with two types of coral growing forms: slow growing massive and encrusting corals (the “tortoise”) coexisting with fast growing branching and tabular corals (the “hare”). Slow growing corals are more tolerant to variations in environmental conditions and provide structure over the long term. Fast growing corals are more sensitive to changing environmental conditions but recover quickly and build structure in the shorter term. The need for both growth forms is also reflected in the types of nurseries used. Further, the nubbins or coral fragments used in the nurseries can be produced through asexual or sexual reproduction. In asexual reproduction, nubbins

[31] Nazurally, N. and Rinkevich, B. 2014. A Questionnaire-based Consideration of Coral Farming for Coastal Socio-economic Development in Mauritius. *Western Indian Ocean J. Mar. Sci.* 12 (1): 47-56,

are obtained by fragmenting donor corals, so each fragment, being a clone of the donor colony, becomes a new colony over time. In sexual reproduction, nubbins are obtained from the settlement of coral larvae resulting from broadcast spawning of eggs and sperm from the parent corals. Finally, the slow growth rates of massive and encrusting corals rule out the use of standard nurseries for fast production of transplants. To propagate these species, the technique of microfragmentation and fusion is needed. Here, donor colonies are cut into mall strips (fingernail size), stimulating the fragments to grow quickly to reach their original size. Many fragments of the same coral, after peak growth phase, can be placed together and fuse, forming a larger coral colony 25 faster than if grown with the traditional nursery setup.

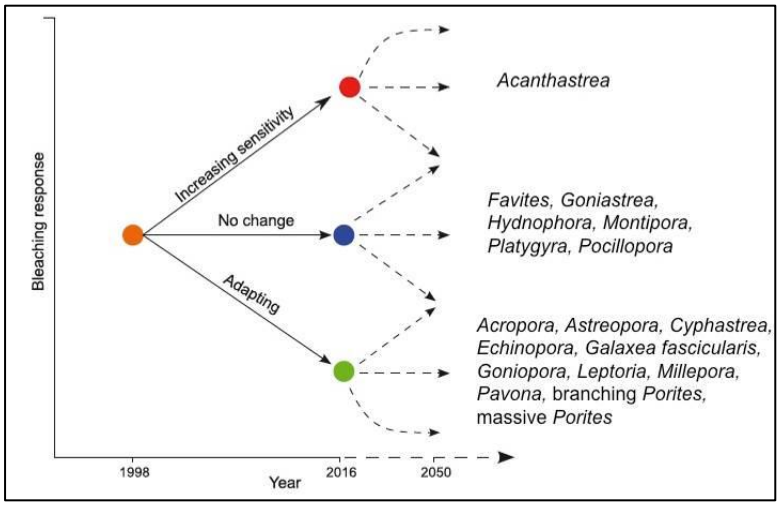
Mauritius and Seychelles will use both land-based and ocean nurseries. In Mauritius, building on previous experience at MOI, a land-based coral nursery will be built. This nursery will be used to propagate locally threatened species and selected massive corals. An experimental land-based set-up will be used to obtain new coral recruits obtained from collecting coral spawn, that can settle on pre-conditioned plates for a future relocation to the ocean nurseries. Small-scale ocean based nurseries including table nursery bottom attached model (for culture of up to 100 corals per nursery) (see Annex 1) and multi-layered rope nursery (for culture of up to 1000 corals per nursery) will be built for community-based coral farming at each MPA site and additional sites as per interest of adjacent hotels. These ocean nurseries will be filled with nubbins from asexual propagation and eventually will also include nubbins obtained from sexual propagation in the land-based nursery.

In Seychelles, the land-based nursery will be built on the premises of the Nature Seychelles Praslin marine laboratory. This nursery will be used to propagate massive corals (micro-fragmentation and fusion), and to hold briefly donor colonies to trigger spawning (because mass coral spawning is absent in Seychelles), collect the coral spawn and settle the coral larvae in pre-conditioned plates for a future relocation to the ocean nurseries. Based on the prior experience from Nature Seychelles, large-scale ocean nurseries (up to 5,000 corals per nursery) will be built using the midwater floating rope nursery model These ocean nurseries will be filled with nubbins from asexual propagation and eventually will also include nubbins obtained from sexual propagation in the land-based nursery. The midwater ocean nurseries will be built at the nursery sites in both the Cousin Island Special Reserve and the Curieuse Island Special Reserve in order to spread potential risks (e.g. coral loss from invasive sponges, disease, or a freak hurricane event). At the community-based site (Anse Forbans), the midwater ocean nurseries will be sized to the capabilities of the community workforce. Hotels interested in coral reef restoration will purchase corals from the ocean nurseries (see business plan).

Selection criteria for species to be propagated and planted will be identified based on best available knowledge about bleaching resistant and resilient species. Research undertaken in Seychelles, Mauritius and globally provides some strong indications already. For example, in an extensive study of Kenyan coral reefs on back reef lagoons, twenty-one common coral taxa (mostly genera) were monitored for their response to the 1998 and 2016 thermal anomalies due to global El Niño events. Three response groups were identified: increased sensitivity, no response and adapting to coral bleaching[32]. The taxons identified as “no response” and “adapting to coral bleaching” can be targeted for coral reef restoration (Fig. 2).

[32] McClanahan TR (2017) Changes in coral sensitivity to thermal anomalies. Marine Ecology Progress Series 570: 71–85.

Figure 2. *Possible adaptation scenarios for the three response groups (increasing sensitivity, no change, and adapting) found in the Kenyan study (McClanahan 2017).*



Coral species resistant and resilient to coral bleaching can also be screened through genetic analysis of the symbiotic zooxanthellae. Reef building corals host multiple types (clades) of zooxanthellae of the genus *Symbiodinium* within single colonies[33], known as clades A, B, C, and D. *Symbiodinium* clade D is known as thermally stress-tolerant and corals hosting this clade are more resistant to coral bleaching[34,35]

The coral nubbins will be fragmented from donor corals located in donor sites in adjacent reef areas (i.e. no alien species will be used) and will be survivors of previous bleaching events (resistance or resilience to bleaching). Research in Mauritius has shown that although *Acropora* species generally suffer high mortalities following bleaching events, at least three species (*Galaxea fascicularis, Pavona decussata* and *Pocillopora damicornis*) have survival rates of over 65% in nurseries[36]. Several species of *Pocillopora* in particular seem to be resilient and have been successful propagated in nurseries[37]. Prior implementation of coral reef restoration in Seychelles used an assemblage of 34 donor species that had survived the 1998 mass bleaching event.

Once the colonies in the nurseries have reached a sufficient size and quantity, they will be transplanted onto the selected reef sites, which have been appropriately prepared. For example, where the Nature Seychelles model is used for reefs that are essential devoid of living corals, the point of contact where the coral is cemented to the substrate is "cleaned" with scrub brushes before transplantation. Methods for

[33] Baker AC (2003). Flexibility and specificity in coral-algal symbiosis: diversity, ecology, and biogeography of Symbiodinium. Annual Review of Ecology Evolution Syst. 34: 661–689.
[34] Baker AC, Starger CJ, McClanahan TR, Glynn PW (2004). Corals' adaptive response to climate change. Nature 430: 741
[35] Stat, M., and Gates, R. D. (2011). Clade D Symbiodinium in scleractinian corals: a "nugget" of hope, a selfish opportunist, an ominous sign, or all of the above? Journal of Marine Biology 730715. doi: 10.1155/2011/730715
[36] Moothien Pillay R., Bacha Gian S., Bhoyroo V., Curpen S. (2012). Adapting coral culture climate change: the Mauritian experience. Western Indian Ocean J. Mar. Sci.10 (2): 155-167.
[37] Bacha Gian S., Moothien Pillay R., Nicolas A., Bapoo-Dundoo P., Seeam V., Nazurally N. (2015). Small Scale Reef Rehabilitation in Mauritius. 9th WIOMSA Scientific Symposium 26–31 October 2015 Book of Abstracts; Oral presentation.

attaching the colonies (e.g. directly to the substrate, or on frames) and how farmed corals are best transported to the transplant sites will be selected as part of work under Component 3. Monitoring and maintenance activities will be undertaken according to the programmes developed in Component 3.

Target estimates for total colonies transplanted and area restored

An initial estimate of the number of coral colonies to be transplanted and the area of degraded reef that could be restored in each country is shown here. The actual numbers at the end of the project might be higher or lower depending on weather conditions, and team/s performance over the 5 year period. Given that the work involved will vary according to the characteristics of the sites selected for restoration, it is difficult to estimate in advance what can be exactly achieved. Therefore, projections are calculated for a theoretical maximum and an average value. Given the innovative nature of this project in terms of up-scaling restoration efforts, there are few if any examples from other parts of the world that could be used as a basis. Here, the USAID-funded Reef Rescuers Project undertaken by Nature Seychelles is used as a reference for obtaining initial estimates for Seychelles. This project transplanted a total of 24,431 corals over an area of 0.52 ha (4-5 colonies per m^2) of degraded reef over a period of about 18 months distributed in a 3 year period (6-month transplant season each year), resulting in a 700% increase in coral cover by the end of the project, from 2% in 2012 to 14% in 2014. This project estimated that for a completely degraded reef, some 400-500 corals are needed to restore 100 m^2. For Mauritius, small-scale pilot projects transplanted 10-12 colonies per m^2 (equivalent to 1000-1200 per 100m^2). However, at some locations it may be equally important to provide corals for "in-filling" small degraded areas, for example to restore the topography of the reef, which might require less effort and fewer corals. Knowledge on successful approaches is accruing rapidly however, and the review to be undertaken in Component 3 of the project will enable targets to be set.

The differences in transplantation density are related to the size of the nursery grown corals. In the Seychelles Reef Rescuers project[38], branching and tabular corals grew for up to 1 year in the floating midwater rope nurseries, from thumbsize to a football size (roughly 22 cm wide). At this size, the ideal transplantation density is 4 corals per m^2. This density is easy to visualize by the divers and implement during the limited dive time (3 h per dive, 2 dives per day), and incorporates possible post-transplantation mortality of up to 25 %, while still leaving a density high enough to have an positive impact on the transplanted site. A team of 6 highly trained scientific divers working in pairs (first diver cleans substrate and places coral, second diver cements coral to substrate) achieved a maximum transplantation rate of 200 corals per day (perfect weather conditions), and an average of 134.4 corals per day (SE 11.7 corals, range 69-200 corals). The Reef Rescuers project included research, development, implementation and teaching. Therefore, scientific divers were not transplanting corals at the maximum rate or the average rate for every working day during the 6 month transplantation season. The estimates shown on Table 1 assume every workday of the transplantation season is dedicated to cementing corals on the degraded reef.

[38] Frias-Torres S, Montoya-Maya PH, Shah N.J (Eds.) 2015. Coral Reef Restoration Toolkit: A Field-Oriented Guide Developed in the Seychelles Islands. Nature Seychelles, Mahe, Republic of Seychelles.

Table 1 *Estimates of total corals transplanted and total area restored at the end of the 5 year project for one site in Seychelles. Corals grow in midwater floating nurseries for 1 year, and there is a 1 year delay at the start of the project (see logframe activities). Therefore, there are 3 transplantation seasons. A transplantion season is 6 months long, due to the changing sea conditions of the monsoons. Transplantation density is 4 corals per m^2. Workdays are Monday through Friday.*

Estimates	**Daily rate (corals/day)**	**Total corals in transplant season**	**Total corals in 5 year project (3 seasons)**	**Total square meters restored**	**Total hectares restored**
Maximum theoretical values	200	24,000	72,000	18,000	1.8
Average values	134	16,080	48,240	12,060	1.2

Therefore, if the estimates in Table 2 can be replicated at both the Cousin Island Special Reserve and the Curieuse Island Special Reserve, then the total corals transplanted over the 5 year period ranges from 96,480 corals (average) to 144,000 corals (maximum) and the total hectares restored ranges from 2.4 hectares (average) to 3.6 hectares (maximum). For the community-based restoration at Anse Forbans, there are no base numbers for calculations. These estimates are for the asexual fragmentation only. Since the collection of sexual recruits and the growth of massive corals by microfragmentation and fusion will be attempted for the first time in Seychelles, there are no base values to provide estimates for such techniques.

For Mauritius, the transplantation efforts will be community based and the ocean nurseries are the table bottom type which at the most can hold 500 corals. Transplantation rates and the size of corals at transplant time are unknown. These values will be obtained during the validation workshop.

Workforce

Coral restoration is labor intensive. The stakeholder analysis (see separate document) includes an assessment of sources for the work force. Community members, including fishers, women, youth and boat operators are likely to be willing to take part. University students in both countries are likely to want to be involved, both for work experience and also to undertake dissertations and master's theses. It may also be possible to involve MPA, fisheries and NGO staff. The source of labor will require particular attention in Seychelles, as this has already been found to be a limiting factor. Nature Seychelles resolved this by recruiting scientific diver volunteers from overseas to implement the USAID-funded Reef Rescuers project.

A coral reef restoration project requires a good balance of academic and technical skills from the doctoral level to the trade school level to unskilled workers who can be certified for specific activities. A brief list of the human resources, skills and work specifications needed for the AFB coral reef restoration project is shown in Table 2.

Table 2. *Recommended human resources for a coral reef restoration project. Number in brackets corresponds to the amount of people per job title (Modified from Frias-Torres et al. (2015)[39].*

Job Title	***Skills & Qualifications***	***Work Specifications***
For the duration of the project		
Chief Scientist & Project Coordinator – PC	*Solid conservation-oriented restoration experience; graduate degree in marine science, expert diver; capacity for developing and coordinating work plans, budgets, stakeholder involvement, managing field staff, and project monitoring and reporting.*	*Coordinate and manage all aspects of the project, notably liaising with the TSO to supervise the implementation of the project activities. Participate in designing, executing, monitoring, analysing experiments and writing scientific publications. Liaise with other institutional staff to manage project administration and logistics, performance & reporting, stakeholder involvement, communication, and serve as focal point for the scientific committee.*
Technical & Scientific Officer - TSO	*Coral reef restoration expert with significant coral nursery construction, coral transplantation and management experience; graduate degree in marine science, expert diver with superior technical skills, strong analytic and scientific writing skills, strong physical abilities; boat license and boat driving experience, diving and boat equipment maintenance.*	*Lead the implementation of all technical aspects of the project namely: building, stocking and maintaining the nurseries and performing transplantation efforts; designing, executing, monitoring and analyzing experiments, and assisting the PC in any other project aspects which demand his intervention, leading scientific reporting and publication*
From the start of diving operations to the end of the project		
Scientific Dive Leader – SDL	*Divemaster with high physical fitness; BSc/MSc degree in marine science and/or conservation; working experience in coral reef management or research, preferably in donor-funded projects and in coral reef restoration; proven leadership capabilities and experience leading staff in the field; boat license and boat driving experience; diving and boat equipment maintenanc; strong physical*	*Lead the scientific diver volunteers team whenever is needed to help to implement all technical aspects of the project, notably building, stocking, maintaining underwater coral nurseries, performing transplantation of nursery-grown coral colonies and monitoring of transplantation "success". Design, execute, monitor and analyze experiments in relation with the already established scientific framework. Assist the PC and TSO in any other aspects of the project which demand his/her intervention,*

[39] Frias-Torres S, Montoya-Maya PH, Shah N.J (Eds.) 2015. Coral Reef Restoration Toolkit: A Field-Oriented Guide Developed in the Seychelles Islands. Nature Seychelles, Mahe, Republic of Seychelles.

Job Title	Skills & Qualifications	Work Specifications
	abilities.	*particularly project planning, monitoring, reporting, management of project equipment, etc.*
Boatman and maintenance technician	*Skipper license, basic knowledge in mechanics and experience with handling boat engines; acquaintance with local reefs and navigation hazards around working area.*	*Responsible for driving the project boat, and maintaining the boat and the engine. When not undertaking one of these tasks he will be an integral part of the crew and assist in whatever terrestrial activity that is taking place (e.g. construction building on land base, maintenance, helping to fill coral nursery, etc)*
Scientific divers	*Certified diver (Advanced PADI minimum), high physical fitness; BSc/MSc degree in marine science and/or conservation, experience in monitoring and analyzing scientific data (coral and fish monitoring an asset), underwater photography.*	*In addition to the routine work of constructing, filling and maintaining the nurseries and coral collection, the scientific divers will be involved in monitoring the experiments and the nurseries, and help analyze data collected. For the transplantation phase, scientific divers are also required to transplant coral colonies, monitor baseline and post transplantation conditions in transplanted plots. Responsible for filling the scuba tanks.*
Field Assistants	*Certified divers (Open Water PADI minimum), high physical fitness; no specific degree needed, but project-based coral reef restoration certification must be completed*	*Support surface and in water activities as directed by Scientific Dive Leader and Scientific Divers.*
Land nursery staff Plant Maintenance Officer	*Training received as part of project for land nurseries dedicated to proper functioning of the land base nursery*	*Proper functioning of the land base nursery system including sea water flow, pump maintenance, electrical & plumbing works*
Land nursery staff Nurseryman	*No certification needed. Basic training received to maintain land nursery*	*Regular maintenance of land based nursery,*
Boat Cleaner	*No specific license required; basic familiarity with boats; swimming and snorkel skills*	*Boat cleaning once a week on deck (detailed cleaning not completed by daily boatman activities) and on boat hull (scraping algae from hull, using snorkel gear, and brushes); Deep boat cleaning and engine cleaning when hauling boat on land*

Job Title	*Skills & Qualifications*	*Work Specifications*
		every 6 months.
Office Cleaning Person	*No specific license required; basic familiarity with cleaning office and housing environments*	*Cleaning laboratory building (office space, kitchen and bathroom) and housing facilities (if available) connected to laboratory twice per week.*
Receptionist	*Basic familiarity with office enviroment; basic telephone and computer skills preferred*	*General receptionist activities: Keeping schedules for maintenance work, purchasing office supplies, interacting with visitors, keeping food supplies, answering phone calls, etc.*
Electrician	*Licensed electrician; familiarity with office and housing environments*	*Available when needed for fixing electrical issues: lights, pumps, outlets, generators, etc.*
Plumber	*Licensed plumber; familiarity with office and housing environments*	*Available when needed for fixing plumbing issues: pipes, pumps, kitchen, bathroom, etc.*
Pest Control	*License pest control worker; familiarity with office and housing environments*	*Available when needed for regular pest control*
Driver	*Driver's license required*	*Available for transporting people and materials if laboratory does not have own vehicle*

The basic team operational unit consists of a senior team of 1 Chief Scientist/Project Coordinator, 1 Technical/Scientific Officer, and 1 Dive Leader per project site. To this senior team, 1 Boatman/Maintenance Technician and 4-6 Scientific Divers are added per project site. From there the team can grow with field assistants, land nursery staff and other personnel required for the secure implementation of the project. Institution administrators and leaders are not included in this table. To maximize project funds and maintain consistency in project aims, each country will need their own Chief Scientist & Project Coordinator who will be in charge of coordinating all in-country project sites. Then, starting with the remainder of the senior team (Technical/Scientific Officer, and Dive Leader), Scientific Divers, boatman, field assistants, land nursery staff and other personnel units are replicated at each project site.

In each country, participants will be trained in coral reef restoration, from the restoration activities (nursery and transplantation phase) to the maintenance and monitoring activities. At nurseries and initially on rehabilitated reefs, rigorous maintenance programmes are required to remove predators and algae. Growth rates of coral colonies, as well as abundance and diversity of associated reef species including fish and key invertebrates, will be monitored. Participants with previous experience of reef restoration will lead the training, with regional and international expertise brought in as required. A “training-of-trainers” approach will be taken, with

suitable leaders identified in the communities and partner organisations who will be taught the protocols and procedures and will be able to train others. An awareness and communication programme will be undertaken as well in each country, to ensure that the public and all stakeholders are aware of the project and why it is being undertaken and to sensitise people to the opportunities for employment and improved livelihoods.

In both countries hotels have expressed interest in participating. Many hotels globally are taking an interest in creating coral "gardens" for the enjoyment of their guests, given that good snorkelling and diving opportunities on their reefs are declining as a result of bleaching and reef degradation. In 2016, there were anecdotal reports that hotels are increasingly developing non-reef related attractions (other water-sports, honey-moon activities) for this reason. Diving will however continue to be an important activity and dive centres might be willing to take part, providing labour and equipment. The involvement of tourism enterprises may be attractive to their clients (it may be possible to involve tourists directly in the work involved), as well as beneficial to their long-term business through the improved health and scenic value of the reefs. While hotel involvement in coral reef restoration is promising, the number of diver hours invested in the restoration activity is highly variable and strongly depends on hotel leadership and tourist performance. Hotel participation will be sough in both Mauritius and Seychelles, but it is difficult to quantify at this point what will be their contribution. For example, Nature Seychelles secured funding from the GEF-Small Grants Program and collaborated with the Constance Lemuria 5 star resort in Praslin Island to restore a coral garden in Anse Kerlan. A team of 4 international scientific divers recruited for the project worked for 1.5 months intensively, to transplant 2,015 nursery-grown corals of branching, massive and encrusting species to a degraded path reef, 1-3 m deep. Hotel staff were trained to monitor the health of the transplanted reef, but neither tourists nor hotel staff were actually involved in the restoration activities due to lack of time and resources to train them[40].

[40] Frias-Torres S. 2015. Restoration of a coral garden at Praslin island, Seychelles. Final Report. GOS/UNDP/GEF. Tourism partnership programme: biodiversity mainstreaming project. 12 pp.

Annex [#]. Social and Environmental Screening Template

The completed template, which constitutes the Social and Environmental Screening Report, must be included as an annex to the Project Document. Please refer to the Social and Environmental Screening Procedure for guidance on how to answer the 6 questions.]

Project Information

Project Information	
1. Project Title	Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future
2. Project Number	5736
3. Location (Global/Region/Country)	Mauritius and Seychelles

Part A. Integrating Overarching Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Overarching Principles in order to Strengthen Social and Environmental Sustainability?
Briefly describe in the space below how the Project mainstreams the human-rights based approach
The project integrates overarching human rights principles in order to strengthen social and environmental sustainability by including measures to assist the capacity of the republics of Mauritius and Seychelles to protect and restore their coral reefs, which will in turn protect the rights for food, for safety, for safe drinking water, for safe shelter, and for decent work of all population, but particularly of the vulnerable. UNDP consistently applies the Human Rights Based approach (HRBA) in all programming, taking into account the responsibilities of the duty-bearers and the obligations and entitlements of the right-holders. The project design includes the identification of the government authorities as the primary duty-bearer in ensuring effective management of the coral populations in the lagoons to ensure that the biodiversity protection as well as food security in the longer term and recognizes the importance of partnerships across various sectors, and the integral engagement and involvement of the rights-holders themselves in this agenda. These rights-holders include fishermen, NGOs and other community members participating in the project efforts and improving livelihoods.
Briefly describe in the space below how the Project is likely to improve gender equality and women's empowerment

Gender and social issues will be fully considered in the project, and gender accountability as a cross-cutting issue that will be tracked as part of the project's M&E system. During the project development phase, a gender assessment will be conducted to develop a project specific gender mainstreaming strategy and action plan. The project will pursue a gender-sensitive approach whereby gender equality in participation will be strongly promoted. Under all components, the principle of gender equality will be promoted in terms of both numbers involved and degree of participation in decision-making. Equal participation of men and women in decision-making forums and in capacity building activities will be encouraged. During the design phase of the project, the role played by women in different project components (gender baseline) will documented and this information will be used in planning and implementing project activities to help ensure that the project promotes gender equality. UNDP will encourage qualified women applicants for positions under the project as per UNDP rules and regulations.

Briefly describe in the space below how the Project mainstreams environmental sustainability

The project will directly address and aim to improve the environmental sustainability through the coral reel restoration in Mauritius and Seychelles. Mauritius and Seychelles are highly vulnerable to climate change in several ways, none more so than the impact that elevated sea temperature is having on their coral reefs. Coral reefs provide a wealth of ecosystem services including food, coastal protection, recreational and tourism use, biodiversity benefits, and regulating services, all of which are vital to the local economies and food security of human populations living in vulnerable Small Island Developing States (SIDS) such as these two countries. In both Mauritius and Seychelles, corals have suffered heavy mortalities from bleaching events, caused by climate-change induced sea warming, over recent decades. Healthy and robust coral reefs, through the provision of these ecosystem services, ensure that coastal populations of tropical countries have increased resilience to the adverse impacts of climate change. Through strengthening both technical and institutional capacities in both countries for coral restoration with climate change impacts fully taken into consideration and with the active involvement of all concerned stakeholders, the project will ensure the coral reefs in both countries are/become resilient to climate change, the project will directly promote environmental sustainability.

Part B. Identifying and Managing Social and Environmental Risks

QUESTION 2: What are the Potential Social and Environmental Risks? *Note: Describe briefly potential social and environmental risks identified in Attachment 1 – Risk Screening Checklist (based on any "Yes" responses.). If no risks have been identified in Attachment 1 then note "No Risks Identified" and skip to Question 4 and Select "Low Risk". Questions 5 and 6 not required for Low Risk Projects.*	QUESTION 3: What is the level of significance of the potential social and environmental risks? *Note: Respond to Questions 4 and 5 below before proceeding to Question 6*	QUESTION 6: What social and environmental assessment and management measures have been conducted and/or are required to address potential risks (for Risks with Moderate and High Significance)?		
Risk Description	***Impact and Probability (1-5)***	***Significance (Low, Moderate, High)***	***Comments***	***Description of assessment and management measures as reflected in the Project design. If ESIA or SESA is required note that the assessment should consider all potential impacts and risks.***
Risk 1: The Project could lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups.	I = 2 P =2	**Low**	In those areas where the project will implement coral restoration activities, in order to maximize the effectiveness of the coral restoration interventions to be supported by the project some restriction might be put on fishermen who have been fishing there and/or tourism operators who have been conducting tourism activities, either during the limited period or permanently. However, once the coral populations have been restored in a long term, the healthy and more robust coral reefs are expected to nature increase fish population, which will have positive impacts on fishing activities as well as tourism activities in a long run in the areas	In the period that the economic activities (fishing, tourism, etc.) would be curtailed, fishers and operators will be provided with authorization to operate in different areas. The details of such management measures will be developed during the project development phase through stakeholder consultations.

			where corals are restored and beyond. The impact is considered to be of low magnitude, limited in scale (site-specific) and duration (temporary) and can be managed and/or mitigated with relatively uncomplicated accepted measures. Further, a long-term impact can be expected positive rather than negative.	
Risk 2: The Project could potentially restrict availability, quality of and access to resources or basic services.	I = 2 P =2	**Low**	The impact is considered to be of low magnitude, limited in scale (site-specific) and duration (temporary) and can be managed and/or mitigated with relatively uncomplicated accepted measures. Further, a long-term impact can be expected positive rather than negative considering that the restored coral reefs will support more fish and potentially increase the fish catch even outside of the restricted areas.	As per risk 1 above.
Risk 3: Some Project activities are proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities	I = 1 P = 5	**Low**	Project restoration activities will be undertaken in legally protected areas, but the proposed interventions are expected to bring positive impacts, not negative, to critical habitats and environmentally sensitive areas. Thus the risk of this project interventions making any adverse impacts on critical habitats or environmentally sensitive areas are low.	Any interventions proposed by the project in or adjacent to critical habitats and/or environmentally sensitive areas including legally protected areas, are carefully designed and monitored to avoid any intended or unintended negative impacts through careful selection of techniques and methodologies.
Risk 4: The project poses potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	I = 2 P = 2	**Low**	Some activities will involve diving in the lagoon to plant the corals and monitoring their growth.	All project staff working in the lagoon on coral restoration and having to work underwater will be qualified divers and also trained in providing first aid in the event of any mishap.
Risk 5: Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	I = 1 P = 4	**Low**	The project will utilize and nature corals to promote and accelerate coral restoration activities. The selection of corals are done carefully based on the best scientific knowledge available to date for their climate resilience and for their suitability to be planted where the coral restoration activities are expected. Thus, any adverse impacts expected from coral restoration activities are low.	
Risk 6: Potential outcomes of the Project are sensitive or vulnerable to potential impacts of climate change	I = 4 P = 2	**Low**	It is widely believed that climate change will increase the water temperature of the lagoon further in the future and thus potentially lead to more coral bleaching and death in the long-term	The project is designed to enhance Mauritius' and Seychelles resilience to climate change to reduce the adverse

			when no action is taken. The project cannot avoid the potential impacts of climate change and the Project outcomes are vulnerable to them but the project interventions are to reduce adverse impacts of climate change felt by vulnerable communities in the two countries by making the coral populations more resilient to climate change.	impacts of climate change felt by their vulnerable population.

QUESTION 4: What is the overall Project risk categorization?

Select one (see SESP for guidance)		Comments
Low Risk	X	**Some risks are observed as shown under Q2 and in the attachment, but they are considered low and the project interventions will be designed during the project development phase to minimize these perceived risks as much as possible.**
Moderate Risk	☐	
High Risk	☐	

QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are relevant?

Check all that apply		Comments
Principle 1: Human Rights	X	
Principle 2: Gender Equality and Women's Empowerment	☐	
1. Biodiversity Conservation and Natural Resource Management	X	
2. Climate Change Mitigation and Adaptation	X	
3. Community Health, Safety and Working Conditions	X	
4. Cultural Heritage	☐	
5. Displacement and Resettlement	☐	
6. Indigenous Peoples	☐	
7. Pollution Prevention and Resource Efficiency	☐	

Final Sign Off

Signature	*Date*	*Description*
QA Assessor Satyajeet Ramchurn	29/08/2016	UNDP staff member responsible for the Project, typically a UNDP Programme Officer. Final signature confirms they have "checked" to ensure that the SESP is adequately conducted.
QA Approver Roland Alcindor	29/08/2016	UNDP senior manager, typically the UNDP Deputy Country Director (DCD), Country Director (CD), Deputy Resident Representative (DRR), or Resident Representative (RR). The QA Approver cannot also be the QA Assessor. Final signature confirms they have "cleared" the SESP prior to submittal to the PAC.
PAC Chair Luka Okumu	29/08/2016	UNDP chair of the PAC. In some cases PAC Chair may also be the QA Approver. Final signature confirms that the SESP was considered as part of the project appraisal and considered in recommendations of the PAC.

SESP Attachment 1. Social and Environmental Risk Screening Checklist

Checklist Potential Social and Environmental Risks		
Principles 1: Human Rights		**Answer (Yes/No)**
1.	Could the Project lead to adverse impacts on enjoyment of the human rights (civil, political, economic, social or cultural) of the affected population and particularly of marginalized groups?	Yes
2.	Is there a likelihood that the Project would have inequitable or discriminatory adverse impacts on affected populations, particularly people living in poverty or marginalized or excluded individuals or groups? [1]	No
3.	Could the Project potentially restrict availability, quality of and access to resources or basic services, in particular to marginalized individuals or groups?	Yes
4.	Is there a likelihood that the Project would exclude any potentially affected stakeholders, in particular marginalized groups, from fully participating in decisions that may affect them?	No
5.	Is there a risk that duty-bearers do not have the capacity to meet their obligations in the Project?	No
6.	Is there a risk that rights-holders do not have the capacity to claim their rights?	No
7.	Have local communities or individuals, given the opportunity, raised human rights concerns regarding the Project during the stakeholder engagement process?	No
8.	Is there a risk that the Project would exacerbate conflicts among and/or the risk of violence to project-affected communities and individuals?	No
Principle 2: Gender Equality and Women's Empowerment		
1.	Is there a likelihood that the proposed Project would have adverse impacts on gender equality and/or the situation of women and girls?	No
2.	Would the Project potentially reproduce discriminations against women based on gender, especially regarding participation in design and implementation or access to opportunities and benefits?	No
3.	Have women's groups/leaders raised gender equality concerns regarding the Project during the stakeholder engagement process and has this been included in the overall Project proposal and in the risk assessment?	No
4.	Would the Project potentially limit women's ability to use, develop and protect natural resources, taking into account different roles and positions of women and men in accessing environmental goods and services? *For example, activities that could lead to natural resources degradation or depletion in communities who depend on these resources for their livelihoods and well being*	No
Principle 3: Environmental Sustainability: Screening questions regarding environmental risks are encompassed by the specific Standard-related questions below		
Standard 1: Biodiversity Conservation and Sustainable Natural Resource Management		
1.1	Would the Project potentially cause adverse impacts to habitats (e.g. modified, natural, and critical habitats) and/or ecosystems and ecosystem services?	No

[1] Prohibited grounds of discrimination include race, ethnicity, gender, age, language, disability, sexual orientation, religion, political or other opinion, national or social or geographical origin, property, birth or other status including as an indigenous person or as a member of a minority. References to "women and men" or similar is understood to include women and men, boys and girls, and other groups discriminated against based on their gender identities, such as transgender people and transsexuals.

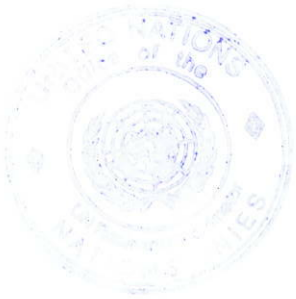
	For example, through habitat loss, conversion or degradation, fragmentation, hydrological changes	
1.2	Are any Project activities proposed within or adjacent to critical habitats and/or environmentally sensitive areas, including legally protected areas (e.g. nature reserve, national park), areas proposed for protection, or recognized as such by authoritative sources and/or indigenous peoples or local communities?	Yes
1.3	Does the Project involve changes to the use of lands and resources that may have adverse impacts on habitats, ecosystems, and/or livelihoods? (Note: if restrictions and/or limitations of access to lands would apply, refer to Standard 5)	No
1.4	Would Project activities pose risks to endangered species?	No
1.5	Would the Project pose a risk of introducing invasive alien species?	No
1.6	Does the Project involve harvesting of natural forests, plantation development, or reforestation?	No
1.7	Does the Project involve the production and/or harvesting of fish populations or other aquatic species?	No
1.8	Does the Project involve significant extraction, diversion or containment of surface or ground water? *For example, construction of dams, reservoirs, river basin developments, groundwater extraction*	No
1.9	Does the Project involve utilization of genetic resources? (e.g. collection and/or harvesting, commercial development)	Yes
1.10	Would the Project generate potential adverse transboundary or global environmental concerns?	No
1.11	Would the Project result in secondary or consequential development activities which could lead to adverse social and environmental effects, or would it generate cumulative impacts with other known existing or planned activities in the area? *For example, a new road through forested lands will generate direct environmental and social impacts (e.g. felling of trees, earthworks, potential relocation of inhabitants). The new road may also facilitate encroachment on lands by illegal settlers or generate unplanned commercial development along the route, potentially in sensitive areas. These are indirect, secondary, or induced impacts that need to be considered. Also, if similar developments in the same forested area are planned, then cumulative impacts of multiple activities (even if not part of the same Project) need to be considered.*	No
Standard 2: Climate Change Mitigation and Adaptation		
2.1	Will the proposed Project result in significant[2] greenhouse gas emissions or may exacerbate climate change?	No
2.2	Would the potential outcomes of the Project be sensitive or vulnerable to potential impacts of climate change?	Yes
2.3	Is the proposed Project likely to directly or indirectly increase social and environmental vulnerability to climate change now or in the future (also known as maladaptive practices)? *For example, changes to land use planning may encourage further development of floodplains, potentially increasing the population's vulnerability to climate change, specifically flooding*	No
Standard 3: Community Health, Safety and Working Conditions		
3.1	Would elements of Project construction, operation, or decommissioning pose potential safety risks to local communities?	No
3.2	Would the Project pose potential risks to community health and safety due to the transport, storage, and use and/or disposal of hazardous or dangerous materials (e.g. explosives, fuel and other chemicals during construction and operation)?	No

[2] In regards to CO_2, 'significant emissions' corresponds generally to more than 25,000 tons per year (from both direct and indirect sources). [The Guidance Note on Climate Change Mitigation and Adaptation provides additional information on GHG emissions.]

3.3	Does the Project involve large-scale infrastructure development (e.g. dams, roads, buildings)?	No
3.4	Would failure of structural elements of the Project pose risks to communities? (e.g. collapse of buildings or infrastructure)	No
3.5	Would the proposed Project be susceptible to or lead to increased vulnerability to earthquakes, subsidence, landslides, erosion, flooding or extreme climatic conditions?	No
3.6	Would the Project result in potential increased health risks (e.g. from water-borne or other vector-borne diseases or communicable infections such as HIV/AIDS)?	No
3.7	Does the Project pose potential risks and vulnerabilities related to occupational health and safety due to physical, chemical, biological, and radiological hazards during Project construction, operation, or decommissioning?	Yes
3.8	Does the Project involve support for employment or livelihoods that may fail to comply with national and international labor standards (i.e. principles and standards of ILO fundamental conventions)?	No
3.9	Does the Project engage security personnel that may pose a potential risk to health and safety of communities and/or individuals (e.g. due to a lack of adequate training or accountability)?	No
Standard 4: Cultural Heritage		
4.1	Will the proposed Project result in interventions that would potentially adversely impact sites, structures, or objects with historical, cultural, artistic, traditional or religious values or intangible forms of culture (e.g. knowledge, innovations, practices)? (Note: Projects intended to protect and conserve Cultural Heritage may also have inadvertent adverse impacts)	No
4.2	Does the Project propose utilizing tangible and/or intangible forms of cultural heritage for commercial or other purposes?	No
Standard 5: Displacement and Resettlement		
5.1	Would the Project potentially involve temporary or permanent and full or partial physical displacement?	No
5.2	Would the Project possibly result in economic displacement (e.g. loss of assets or access to resources due to land acquisition or access restrictions – even in the absence of physical relocation)?	No
5.3	Is there a risk that the Project would lead to forced evictions?[3]	No
5.4	Would the proposed Project possibly affect land tenure arrangements and/or community based property rights/customary rights to land, territories and/or resources?	No
Standard 6: Indigenous Peoples		
6.1	Are indigenous peoples present in the Project area (including Project area of influence)?	No
6.2	Is it likely that the Project or portions of the Project will be located on lands and territories claimed by indigenous peoples?	No
6.3	Would the proposed Project potentially affect the rights, lands and territories of indigenous peoples (regardless of whether Indigenous Peoples possess the legal titles to such areas)?	No
6.4	Has there been an absence of culturally appropriate consultations carried out with the objective of achieving FPIC on matters that may affect the rights and interests, lands, resources, territories and traditional livelihoods of the indigenous peoples concerned?	No

[3] Forced evictions include acts and/or omissions involving the coerced or involuntary displacement of individuals, groups, or communities from homes and/or lands and common property resources that were occupied or depended upon, thus eliminating the ability of an individual, group, or community to reside or work in a particular dwelling, residence, or location without the provision of, and access to, appropriate forms of legal or other protections.

6.4	Does the proposed Project involve the utilization and/or commercial development of natural resources on lands and territories claimed by indigenous peoples?	No
6.5	Is there a potential for forced eviction or the whole or partial physical or economic displacement of indigenous peoples, including through access restrictions to lands, territories, and resources?	No
6.6	Would the Project adversely affect the development priorities of indigenous peoples as defined by them?	No
6.7	Would the Project potentially affect the traditional livelihoods, physical and cultural survival of indigenous peoples?	No
6.8	Would the Project potentially affect the Cultural Heritage of indigenous peoples, including through the commercialization or use of their traditional knowledge and practices?	No
Standard 7: Pollution Prevention and Resource Efficiency		
7.1	Would the Project potentially result in the release of pollutants to the environment due to routine or non-routine circumstances with the potential for adverse local, regional, and/or transboundary impacts?	No
7.2	Would the proposed Project potentially result in the generation of waste (both hazardous and non-hazardous)?	No
7.3	Will the proposed Project potentially involve the manufacture, trade, release, and/or use of hazardous chemicals and/or materials? Does the Project propose use of chemicals or materials subject to international bans or phase-outs? *For example, DDT, PCBs and other chemicals listed in international conventions such as the Stockholm Conventions on Persistent Organic Pollutants or the Montreal Protocol*	No
7.4	Will the proposed Project involve the application of pesticides that may have a negative effect on the environment or human health?	No
7.5	Does the Project include activities that require significant consumption of raw materials, energy, and/or water?	No



ADAPTATION FUND

Annex 3

Minutes of the Regional Steering Committee, held on 6 July 2016 at the Seychelles Fisheries Authority.

Project: Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

In Attendance: As Attached

1. Opening

The meeting was officially opened at 0930 hrs. by the UNDP Resident Representative, Mr Simon Springett, who also acted as chairperson for the first Regional Project Steering committee. The PS of Environment Mr Decomarmond also welcomed the colleagues from Mauritius and shared the importance of joint regional cooperation through this project and others.

The representative from the Mauritius Ministry of Finance and Economic Development, Mrs Ramsurn reiterated PS Decomarmond's sentiment and recalled how the idea and enthusiasm for this project was borne and the rapid collaboration between Mauritius and Seychelles.

Dr. Shah also commented on the collaborations and felt that the original concept of the Adaptive nature of the Coral Restoration focusing on Food Security and Disaster Risk Reduction must be kept.

The Agenda adopted was as follows:

09 30 to 11 00: Presentation and Discussion of Concept note by Ms Sue Wells, Consultant on Skype.
11 15 to 11 45: Presentation of UNDP – Project Board and Quality AssuranceMr Satyajeet Ramchurn, UNDP Environment Programme Officer
11 45 to 12 30 Presentation of MOI Coral Restoration Projects – Dr D Dumur, MOI

2. Presentation of Concept Note

The Concept Note Preparation consultant, Ms. Sue Wells, presented the concept note via Skype. There are 3 components; the first two are the country specific actions, are identically worded and the 3rd component will look at a regional experience. The committee agreed with the proposed structure.

Key points of the proposal to focus on

- Scientific Data to support increase in fish catch (at full proposal stage)
- Linking Food Security in relation to Tourism
- Linking Tourism and Restoration
- Documentation and Lessons learnt from both countries
- Development of Business Plans for Sustainable Management &Financing of Reef Restoration efforts
- Rehabilitation of Coral sites in Marine Protected Areas
- International Coral Reef Symposium June 2016 – Demonstrated worldwide interest in restoration of reefs

3.0 Discussion points:

The discussion points are not individualized. However, the points below emanate from representatives from both Seychelles and Mauritius counterparts attending the meeting.

General

- Important to identify gaps and support livelihoods and DRR links
- Benefits of research must be clear such as development of a Regional Research Platform to extend beyond lifetime of a project
- Build on comparative advantages of the two countries for Upscaling
- Capacity is an issue in Seychelles; AFB may not be willing to fund International Volunteers
- SNPA Structure and capacity also limited- could expand with financial support
- Tourism could play an increasingly critical role in training and mobilizing private sector resources.

Adaptation Aspects to be emphasized

- List Concrete Adaptation Activities
- Importance of such activities to build Climate Resilience
- Vulnerable Groups and benefits from the project – how to ensure
- Level of urgency – corals are degrading rapidly especially in Mauritius
- Emphasize cross/multi-sectoral approach

Timeline for submission

- 15 July for Concept Note (Review between 07-13 by partners/Regional SC)
- 18 July Submission to UNDP HQ
- National Office Endorsement by 18 July
- Submission to AFB is partners in agreement 1 August.

Project Board Guideline/Membership

- Possibly request Nairobi Convention/UNEP to be part of SC through SAPPHIRE regional project which will be implemented in Seychelles.
- Will need more thought at full proposal stage given costs to be incurred

Site Selection: Justification

- Genetic Research
- Site selection and science
- Linkages important with community support
- Coastal mapping and zoning already advanced in Seychelles
- Site selection may serve one purpose not both but there is a need to review sites that may have more relevance in terms of Disaster Risk Reduction and Food Security
- Will need to examine Linkages between GEF6/AFB and other projects

Meeting Closure

The meeting closed at 12 30 pm with a vote of thanks to all those present despite the short notice. The help and collaboration of all stakeholders was sought in order to meet the 1 August Deadline.

ATTENDANCE LIST

SNO	NAME	DESIGNATION	ORGANIZATION	Contact
1	Mr. Alain Decommarmond	Principal Secretary	Ministry of Environment, Energy and Climate Change	adecommarmond@gov.sc
2	Dr. Andrew Greiser-Johns	Chief Technical Advisor and Programme Coordinator	UNDP-GOS-GEF Programme Coordinating Unit	a.grieserjohns@pcusey.sc
3	Mr. Flavien Joubert	Chief Executive Officer	Seychelles National Parks Authority	f.joubert@env.gov.sc
4	Mr. Denis Matatiken	Special Advisor to te Minister of Environment, Energy and Climate Change	Ministry of Environment, Energy and Climate Change	boga@seychelles.net
5	Mr. Savinien Leblond	Programme Officer	Marine Conservation Society of Seychelles	savi72011@gmail.com
6	Mrs. Meggy Tirant	Programme Assistant, Global Climate Change Alliance Project	United Nations Development Programme	meggy.tirant@undp.org
7	Mr. Jude Bijoux	Consultant	UNEP-Ecosystem Based Adaptation Project.	judebijoux@gmail.com
8	Mr. Rodney Quatre	Programme Manager, Global Climate Change Alliance Project	United Nations Development Programme	rodney.quatre@undp.org
9	Dr. Danishta Dumur-Neelayya	Associate Research Scientist	Mauritius Oceanography Institute, Mauritius	ddumur@intnet.mu
10	Mrs Rachna Ramsurn	Analyst/Senior Analyst	MOF, Mauritius	rramsurn@govmu.org
11	Mr. Simon Springett **(Chair of the Regional Steering Committee)**	UNDP Resident Representative/UN Resident Coordinator	United Nations Development Programme	simon.springett@one.un.org
12	Dr. Akiko Yamamoto	UNDP-GEF Regional Technical Advisor - International Waters	UNDP-GEF, Regional Service Centre, Addis Ababa	akiko.yamamoto@undp.org
13	Dr. Nirmal Shah	Chief Executive Officer	Nature Seychelles	nirmalshah@natureseychelles.org

SNO	NAME	DESIGNATION	ORGANIZATION	Contact
14	Mr. Andy Rylance	Technical Advisor Protected Area Finance Project	UNDP-GOS-GEF Programme Coordinating Unit	a.rylance@pcusey.sc
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16	Ms. Helena Sims	Project Manager	The Nature Conservancy - Seychelles	h.sims@pcusey.sc
17	Mr. Roland Alcindor	Programme Manager	United Nations Development Programme	roland.alcindor@undp.org
18	Mr. Marille Benoit	Programme Assistant	United Nations Development Programme	marille.benoit@undp.org
19	Mrs. Preethi Nair	Project Officer	United Nations Development Programme	preethi.sushil@undp.org
20	Mr. Satyajeet Ramchurn	Environment Programme Officer	United Nations Development Programme	satyajeet.ramchurn@undp.org

Annex 4

Minutes of the Second Regional Steering Committee, held on 8 May 2017 at Le Meridien Hotel, Pointe aux Piments, Mauritius

Project: Restoring Marine Ecosystem Services By Rehabilitating Coral Reefs To Meet A Changing Climate Future

In Attendance: As Attached

1. Opening

- The UNDP's Environment Programme Officer welcomed all the participants to the Steering Committee and presented the objectives, agenda and the timeline of the project formulation. He then invited the UNDP Resident Representative for delivering his speech.

- The UNDP Resident Representative stated that there is only three months to prepare the full proposal. In this endeavour, we have the assistance of a Project Formulation Team to address the comments which the AFB has made on the concept note. The purpose of this meeting is therefore to enable us all to kick-start the preparation of the full proposal. This involves setting the baseline activities, and considering the development of the project logical framework, as well as the results framework.

- The UNDP GEF Regional Technical Advisor also delivered a short speech and emphasized on the benefits of the coral restoration and how if coral restoration is effective will lead towards food security benefits and disaster risk benefits. She mentioned that the input of all stakeholders here is important as it will help for the development of the full proposal. She added that the benefits of coral restoration will continue after the project closure.

- The Agenda adopted was as follows:

TIME	TOPIC	RESOURCE PERSONS / FACILITA
09:00 – 09 30	Registration	UNDP Mauritius
09 30 – 09 45	Opening remarks - UNDP Resident Representative,	
09:45 – 09 55	Objectives, Agenda of Regional Steering Committee, timeline of Project Formulation	S Ramchurn, UNDP Mauritius
09 55 – 10 30	Comments on concept note Presentation of Proposal Template Format and information requirements	Sarah Frias Torres, International Consultant
10 30 – 10 45	Tea Break	
10:45 – 11 00	Experiences in Coral Restoration/Expectations from the project with reference to the Business approach	Nature Seychelles

11 00 – 11 30	Experiences in Coral Restoration	Jude Bijoux David Rowatt	
11 40 - 11 45	Experiences in Coral Restoration//Expectations from the project	Mr S Bachagian, Mauritius Oceanography Institute	
11 45 – 12 00	Status of Marine Protected Areas in Mauritius	Ministry of Ocean Economy	
12:00 - 13:00	Lunch		
13 00 – 13 30	Initial consultations from the Mauritius Community Development specialist / Brief intro for Seychelles/ Workplan	E Wiehe/E Talma	
13 30 – 15 00	Logical Framework for the proposed project proposal	Sarah Frias Torres	
15 15 – 15 45	Environmental and Social Management – Risks identified	Akiko Yamamoto	
15 45 - 16 15	Tea Break		
16 15- 18 00	Discussion and way forward		

1. Presentations by Consultant and stakeholders

A) Presentation by Dr. Sarah Frias-Torres, International Consultant – Team Leader

- The Team Leader gave a brief of the concept note, proposal template format and information requirements.
- During her presentation she discussed on the following:-
  a) The importance of coral reefs.
  b) Why should we fund coral reef restoration?
  c) What AFB wants to fund?
  d) Objectives of a coral reef restoration project, etc.
  e) 34 coral species transplanted

- Additionally, she mentioned that there is major death of corals because of bleaching and it takes 500 years for corals to regenerate/grow. Corals which are alive after bleaching gets adapted to future bleaching events.

- She added that Australia has huge stocks of corals, but their perception is that there is no hope for coral restoration. She mentioned that an increase in emissions, will lead to an increase in sea level rise and eventually lead to death of corals.

- The Team Leader provided the following reasons as to why coral reef restoration is important:-
  1. We do not have any choice and we can't wait as the corals are continuing to degrade.
  2. They won't grow or settle.
  3. We must continue until we stop using fossil fuel.

- She added that we must reach an agreement on how to do things, that is, scientific methods to be

used. There are many ways of knowledge generation, in terms of community consultations, scientific papers and social media.
- The Team Leader mentioned that we need to reach an agreement on the area we want to restore and the number of corals to grow. She highlighted that 35 Scientific divers from 10 countries were trained on coral reef restoration and that 6 trainees in ongoing training course from: Australia, Mexico, USA, UK, France and Philippines. Moreover, she mentioned that Mauritius and Seychelles must aim to become a coral reef restoration knowledge hub in the Indian Ocean.

B) Presentation by Mr. Nirmal Shah, Founder and Chief Executive Officer, Nature Seychelles

- The CEO of Nature Seychelles presentation was based in coral restoration/expectations from the project with reference to the business approach.

- He gave a brief on the following:
  a) Disappearing coral reefs
  b) Gardening coral reefs
  c) Gardening from the nurseries and transplant, etc.

- He stated that coral transplantation increased natural settlement and recruitment of corals onto the degraded reef.
- He added that most scientists and managers believe that coral reef restoration is not cost-effective.
- He proposed the following measures for making long term, large scale restoration financially viable: -

1. Mass-Produce and sell farmed (fast growing) corals for reef restoration and for the international aquarium trade –CITES compliant.
2. With facilities and capacity available, leverage other opportunities in mariculture notably low trophic level species.
3. With facilities and capacity available attract other marine R&D projects, partners, researchers and students: Platform and knowledge hubs.
4. Provide training and boot camp learning programs for national and international trainees in coral mariculture and coral reef restoration.
5. Explore Science and Technology opportunities for use of farmed coral
6. Partner with resorts, etc. for restoration using CSR funds

- The committee proposed that people from vulnerable communities could help in this project and not necessarily people from coastal communities.

C) Presentation by Mr Jude Bijoux, Technical Assistant for the UNEP-EBA Project and Mr David Rowatt, Chairman, Marine Conservation Society, Seychelles on experiences in coral restoration:

- The Technical Assistant of the UNEP-EBA Project elaborated on the 2015/2016 coral bleaching event and emphasized why we must be concerned by this. He shared best practices and lessons learned as follows: -

1. Coral reef restoration projects need time to implement
2. Climate resilience should be incorporated into the design of restorative works
3. Such efforts need to be focused in socio-economically important areas

4. Thin branches Acroporas seems to be the most ideal corals to use
5. There is much value in trying a number of techniques at the same time
6. Coral reef restoration need to be combined with complementary methods that can be applied on larger scales
7. There should be continued focus on reducing other stressors to help reefs to recover naturally

- The following observations were made from the committee:-
  1. Co-funding must be secured from outside partners and private sectors for these types of project.
  2. Long term financing needs to be predicted
  3. It is vital to reduce the impacts from tourists as this highly impacts the reefs negatively.
  4. The institutional set up and management is very important for these projects.

- The Chairman of the Marine Conservation Society, Seychelles presentation focussed on community & private sector partnership based coral restoration. He provided the following rationale for partnership coral restoration: -

  a) Resources - Residents and tourism sector have wide resource base.
  b) Manpower - MCSS provides technical support & helps develop funding and local community provides long-term continuity.
  c) Materials - Private sector partners have easy access to most materials necessary.

- He provided the following points as lessons learnt: -
  1. Vulnerability of in-water nurseries to bleaching
  2. Sighting of / portability of nurseries key in areas of seasonal wave action or sedimentation
  3. Spacing of frags in nurseries
  4. Some species very susceptible to algal impairment (e.g. stylophora)
  5. Site selection for transplants or frames

- The potential areas of collaboration he identified are: -
  1. Broaden & expand current programmes
  2. Establish new programmes with local partners & communities
  3. Sharing knowledge & lessons learned will increase project impacts / outcomes

- The UNDP GEF Regional Technical Advisor pointed out that whatever must be done in terms of coral restoration must be the result of community consultations.

- The GEF SGP Mauritius National Coordinator highlighted that Balaclava Marine Park is a huge challenge as there is no management plan and illegal fishing. The challenge will mostly be with the end users in case this site is chosen.

D) Presentation by Mr Suraj Bacha Gian, Research Scientist, Mauritius Oceanography Institute.

- The Representative of the Mauritius Oceanography Institute focussed on experiences in coral restoration and expectations from the project. He gave a background on the status of the Mauritian reefs and listed the projects coral farming projects being implemented in Mauritius by different entities, which are as follows: -

1. Mauritius Oceanography Institute (MOI): -

- Land and Sea Based Coral Farming
- Small Scale Reef Rehabilitation

2. Albion Fisheries Research Centre (AFRC)

- Sea-based Coral Farming in Mauritius and Rodrigues (in collaboration with Rodrigues Regional Assembly and Shoals Rodrigues)

3. Non-governmental organisations (NGOs)

- ELI-Africa (UNDP GEF-SGP funded project): Community based small scale reef rehabilitation at Trou aux Biches (in collaboration with MOI)
- Sensitisation programmes by Reef Conservation, Lagon Bleu, MMCS, ELI Africa etc.

- The main achievements from these projects were as follows: -
    1. Techniques developed for culture of various coral species
    2. List of coral species suitable for culture
    3. Technical report & scientific publication on Land Based Coral Culture in Mauritius
    4. Locally adapted techniques developed for mass culture of corals & small scale reef rehabilitation
    5. Reef sites rehabilitated at Albion (~350m^2), Flic en Flac (~300m^2) and Trou aux Biches (~200m^2)
    6. Transfer of scientific know how to stakeholders & local community for implementation of small scale reef rehabilitation. i.e. "Community-based small scale reef rehabilitation at Trou aux Biches".

- The following recommendations were provided based on the above projects: -
    1. Nursery maintenance from fouling organisms, algae and predators.
    2. LBN: Installation of a sea water cooling system to prevent coral bleaching during hot summers (El Nino events) – or eventually pump sea water from offshore.
    3. OBN: Careful site selection is critical for establishment of sea-based coral farms (i.e. predator free, good flushing, water quality recommended for a healthy coral reef ecosystem etc.).
    4. Sea-based nurseries do not provide shelter from predators and threats (therefore regular maintenance recommended).
    5. Careful site selection is critical for establishment of coral farms & transplantation of colonies farms (i.e. predator free, good flushing, water quality recommended for a healthy coral reef ecosystem etc.).
    6. Donor and transplantation sites should be as similar as possible with respect to environment conditions.
    7. Small scale reef rehabilitation projects are labour intensive; recommended to involve local community & other volunteers.

E) Presentation from Mr S. Ramah, Ministry of Ocean Economy, Marine Resources, Fisheries & Shipping

- The Representative of the Ministry of Ocean Economy, Marine Resources, Fisheries & Shipping presentation was based on the status of the Marine Protected Areas in Mauritius. He spoke about the marine parks in Mauritius and elaborated mostly on Blue Bay Marine Park and Balaclava

Marine Park.

- He provided the following reasons for the management of the marine parks: -
    1. Zoning plans: Strict conservation, Conservation, Multiple use, Swimming, traffic, mooring and Skiing
    2. Enforcement of MPA regulations/Permit
    3. Long term Monitoring (coral, fish, benthic communities, water quality)
    4. Public awareness & Sensitization
    5. MPA Fund (provision in main Act 1998)

- He elaborated on coral bleaching and death of corals at Blue Bay Marine Park for the year 2016.
- Members of the committee highlighted that parrot fish are very important during coral farming and there is no fouling in the water with their presence.
- It was also proposed to include SEMPA and Voluntary Conservation Marine Areas (VCMAs).

The committee deliberated and agreed that Mr Satish Khadun, being the most senior from the Ministry of Ocean Economy, will be the Co-Chair for the Coral Restoration Project Steering Committee.

F) Presentation from Ms Emilie Wiehe, Community Development Specialist for Mauritius

- The Community Development Specialist for Mauritius elaborated on her scope of work which is as follows:
    1. Assess how the project will benefit vulnerable groups
    2. Gender and youth assessment for empowerment of women and youth
    3. Development of gender and youth action plan
    4. Identify roles and responsibilities
    5. Support the establishment of baselines and targets for community development

- She stated that she will need the collaboration of various stakeholders and the strategy put in place to gather information will be desk review, Key informant interviews, focus groups. Additionally, there would be participatory methods for;

    1. Gender and youth assessment.
    2. Gender and youth action plan.
    3. Community development plan.

- Finally, there would be sharing of information/restitution before final inclusion in the project proposal.
- According to her, the Civil Society Stakeholders to be considered would be as follows:
    1. Marine conservation and environmental NGOs
    2. Hotels / sustainability and CSR departments
    3. Registered fishermen and boat operators (both from boathouses and independent)
    4. Coastal community organizations, force-vives, and other NGOs (organizations working with vulnerable groups)

- The Community Development Specialist for Mauritius also discussed on the Coastal vulnerable groups, that is, the Registered Fishermen, illegal fisherman, women and youth. She highlighted the Gender mainstreaming requirements for the project.

- During her initial consultations with NGOs, AHRIM and Fishers and Boat operators she noted that there was a willingness to participate in the Coral restoration project from all of them however

some obstacles and resilience should be tackled.

- She stated that her next steps would be to have workshop with NGOs and civil society, establishing baselines disaggregated by gender and age, and working on the indicators for monitoring the Community development and socio-economic aspects of the project through:
  1. Individual consultations / canvassing
  2. Focus groups and meetings/workshops for development of action plan (gender, youth, community)
  3. Identify resources available and needed
  4. Dissemination of final drafts

- Finally, she presented her work plan and timeline for the project.

G) Presentation from Ms. Elke Talma, Community Development Specialist – Seychelles

- The Community Development Specialist for Seychelles presented briefly on the deliverable for Seychelles part namely:
  1. Community Development Plan
  2. Gender and Youth Assessment report
  3. Gender and Youth Assessment Action Plan
  4. Project Proposal for Adaptation Fund Board

- She also stated that during Sarah's mission in Seychelles stakeholders workshop, one-to-one meetings and site visit is planned on the 12th of May followed by site visits on the 13th of May 2017. On the 15th meeting with NGO Nature Seychelles and one-on-one meetings is planned.

H) Presentation from Dr Sarah Frias-Torres, Team Leader

- The Team Leader's presentation was based on the logical framework for the proposed project proposal. The log-frame shown on pages 11-12 "Expected Outcomes" column of the AFB proposal concept note was used to guide the group discussion. Some issues which were not answered completely will be completed via email for the final proposal document.

Discussion and Way Forward

- The Team Leader stated that we should decide on the site where to do the nursing and coral restoration.
- However, the UNDP GEF Regional Technical Advisor mentioned that to choose a site but do not compromise on the benefits on coral restoration and society at large.
- The sites targeted for coral reef restoration in both countries are marine reserves and VCMAs.
- It was noted that there was increased revenue from tourism activities and there should be community-based tourism.
- The size of the area to be restored, the species of corals to be planted has not been yet agreed on.
- It was agreed to use bottom fixed table nurseries of approximately 4-6 metres deep for coral restoration for Mauritius.
- The leading Institution for the AFB Coral restoration project would be the Ministry of Ocean Economy for Mauritius and Nature Seychelles for Seychelles. The third steering committee will be

held in Seychelles.

The steering committee ended at 17.30 hrs with a vote of thanks.

ATTENDANCE LIST

Name	Designation	Organisation
Mr. S. Springett	UNDP RR & UN RC	UNDP Mauritius & Seychelles
Mrs. Akiko Yamamoto	Regional Technical Advisor on International Waters	UNDP GEF
Mr. Satyajeet Ramchurn	Head of Environment Unit	UNDP Mauritius
Mr. Roland Alcindor	Programme Mananger	UNDP Seychelles
Dr. Sarah Frias-Torres	Team Leader – AFB Coral Restoration Project	AFB Coral Restoration Project
Mr. Nirmal Shah	Founder and Chief Executive Officer	Nature Seychelles
Mrs. Kerstin Henri	Director	Nature Seychelles
Mr. Jude Bijoux	Technical Assistant	UNEP-EBA project
Mrs. Lyndy Bastienne	National Coordinator	GEF SGP Seychelles
Mr. Satish Khadun	Divisional Scientific Officer	Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
Ms. Elke Talma	Community Development Specialist - Seychelles	AFB Coral Restoration Project
Mr. Flavien Joubert	Chief Executive Officer	Seychelles National Parks Authority
Mrs. Ashley Dias	Conservation Officer	Ministry of Environment (Seychelles)
Mr. David Rowatt	Chairman	Marine Conservation Society, Seychelles
Mr. Ramchurn Seenauth	Divisional Environment Officer	Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Mauritius)
Mr. A. Krishna	Marine Educator	Wise Oceans
Mr. Suraj Bacha Gian	Research Scientist	Mauritius Oceanography Institute
Mr. Fabiani Appavou	Analyst	Ministry of Finance & Economic Development
Ms. Emilie Wiehe	Community Development Specialist - Mauritius	AFB Coral Restoration Project
Mrs. Pamela Bapoo-Dundoo	National Coordinator	GEF SGP Mauritius
Dr. Yashvin Neehaul	Associate Research Scientist	Mauritius Oceanography Institute
Dr. D. Dumur-Neelayya	Associate Research Scientist	Mauritius Oceanography Institute

Mr. Prakash Mussai	Research Scientist	Mauritius Oceanography Institute
Mr. Vimal Ramchandur	Research Scientist	Mauritius Oceanography Institute
Mr. N. Bheemul	Technical Officer	Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
Mr. N. Soogun	Environment Officer	Ministry of Social Security, National Solidarity, and Environment and Sustainable Development (Mauritius)
Mr. S. Ramah	Technical Officer	Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
Mr. V. Munbodh	Scientific Officer	Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
Ms. Samanta Hardas	Programme Assistant	GEF SGP Mauritius
Mr. Sameer Khudaroo	Programme Assistant **(Secretary)**	UNDP
Mrs. Kamini Beedasee	Project Assistant **(Secretary)**	UNDP

Annex 5

Minutes of the Third Regional Steering Committee, held on 20 and 21 June 2017 at Care House, Mahe, Seychelles

Project: Restoring Marine Ecosystem Services By Rehabilitating Coral Reefs To Meet A Changing Climate Future

Attendance is at ***Annex 1***

I. Opening

1. The UNDP's Environment Programme Officer welcomed all the participants to the third Regional Steering Committee and presented the objectives, agenda and the timeline of the project formulation. He then invited the UNDP Resident Representative for delivering his speech.
2. The UNDP Resident Representative stated that there remains only one month to prepare the full project proposal. He appreciated the works carried out so far and requested the full participation of all stakeholders to finalise the project proposal.
3. The UNDP GEF Regional Technical Advisor (RTA) also delivered a short speech and pointed out that it was the last opportunity for a face to face meeting before the submission of the project to the AF Board. She wished for an open and collaborative interaction and relied on the technical input, sharing of expertise and knowledge among the countries and experts. She emphasized on the requirement to have a climate change resilience perspective and wished to present the best proposal to the Adaptation Fund (AF) Board.
4. Representative of the Designated Authority from the Government of Seychelles welcomed all members to Seychelles. He wished for collaboration among all members present. He thanked the experts for their works carried out so far and stressed on the community, gender and youth involvement issues that need to be taken on board for the final AF project proposal.
5. Representative of the Designated Authority from the Government of Mauritius thanked the government of Seychelles and UNDP for the organisation of the 3rd Regional Steering Committee. He recalled the works and collaboration that has been met during the last Regional Steering Committee. He wished for a fruitful deliberation for successful results so as to present the best proposal to the AF Board.
6. The Agenda adopted is at ***Annex 2***:

DAY 1:

II. Presentations by Consultant and Stakeholders

7. Presentation on *"Status of proposal preparation and work accomplished since the Second Steering Committee and the proposed Outcomes and Outputs"* by Dr. Sarah Frias-Torres, International Consultant – Team Leader

7.1. The **Team Leader** informed that 2018 will be the International Year of the Reef and that it would be an opportunity if the project could start implementation in 2018. Further to viewing of the trailer of the movie on coral bleaching "Chasing coral", the **Committee agreed** that the movie could be screened in Mauritius and Seychelles as this could be used for the sensitisation of the general public on coral reef rehabilitation under Component 3.

7.2. The main outcomes of her presentation and discussion, were as follows:-

7.2.1. During the implementation phase, each site would comprise of a dedicated team composed of technical/scientific and support staff; and would be led by a Project Coordinator (PhD level). The **Committee agreed** that the composition of the team could be amended as per country need and institutional arrangement.

7.2.2. It was agreed that the objective of the project was to scale up of what is presently done without AF fund. As such, the **Team Leader proposed** that the target of 10,000 coral transplants for each restoration site be reached at the end of the 5 years. She informed that it would be carried out in two steps: 1st by asexual

reproduction to reach stabilisation and stop degradation; and 2nd step by sexual reproduction so as to increase genetic diversity.

7.2.3. **It was agreed** that the protocol and methodology used would be adapted according to each country specificities and requirements.

i. Mauritius will adopt table and multi-layered rope sea based nurseries and a land based nursery.
ii. Seychelles will adopt mid-water floating rope nurseries and land based nurseries.

7.2.4. Further to discussion, the importance of nurseries was confirmed by representative of Mauritius (MOI). He stated that according to Mauritian experience, the survival rate for small transplant without passing through nurseries was very low, since predators and grazers fed on the small transplanted corals.

7.2.5. It was agreed that donor site should be monitored so as to understand the implication of taking the samples. It was also agreed that care must be taken not to destroy donor colonies and that a maximum of 10% take off could be allowed to enable recovery of the donor colony.

8. "Community Consultations and Gender and Youth Assessment in Mauritius" **Presentation by Ms Emilie Wiehe, Community Development Specialist for Mauritius**

8.1. The Community Development Specialist (CDS) for Mauritius described the consultative process she had undergone to obtain information from stakeholders related to coastal and marine users. She noted that the Marine Parks Areas (MPA) in Mauritius are not remote areas and involve local users, and therefore the project might have impact on them. Sensitisation was made so as to ensure the success of the project, to have their cooperation and prevent potential vandalism. She then presented briefly the deliverables for Mauritius part namely:

i. Community Development Plan
ii. Gender and Youth Assessment report
iii. Gender and Youth Assessment Action Plan

8.2. She presented a list of stakeholders consulted for Mauritius and Rodrigues, classifying them according to their importance and influence and she described the action plan for each stakeholders.

8.3. She stressed the importance of gender and youth inclusion in the project at all levels. She described how women, who have a high rate of unemployment in the selected sites, could help. It was noted that even though these women did not know how to swim, the CDS suggested ways in which these women and youth could collaborated, since they were good community mobilisers, had a good social networking and could help in awareness campaign. She suggested that youth and women should be incorporated in the Project Coordinating Unit (PCU).

8.4. <u>Discussion:</u>

8.4.1. The RTA pointed some of the weakness of the reports. Indicating that the information presented did not indicate the actual difficulties or challenges for women in Mauritius and suggested complementing the reports with data to reflect the actual requirement. She also suggested that the reports should indicate why these communities are targeted and how they contribute directly to the degradation of the reef due to their activities; to show how their engagement in the project will decrease the stress on the coral by recycling them in restoration works; and how this will provide job opportunities to women and youth (e.g. carrying out land based activities (outsourced) which do not need scientific/technical knowledge, ecotourism, monitoring etc).

8.4.2. Representative of Mauritius Oceanographic Institute (MOI) informed that maintenance of nurseries is labour intensive. As such community involvement was important. He added that training and seeds would be provided by Ministry of Ocean Economy/MOI.

8.4.3. With regard to sustainability of the project in Mauritius, it was suggested that restoration services could be provided to hotels by the community, through a well-established licensing mechanism. i.e. hotel could buy live corals to registered nurseries/licenced providers and the hotels should be able to show proof of source of transplant at any time for monitoring purposes. Further to discussion it was agreed that there was need to ensure that there is a good enforcement mechanism was put in place, to ensure that the corals come from licenced farms and not from other sources, such as wild corals. An Alternative proposed

would be for the hotels to hire trained community members. Furthermore, the representative of MOI informed that only Ministry of Ocean Economy/MOI will provide for the seeds (donor corals) and that the chain of custody will be strictly controlled. It was also noted that it was very difficult to operate land based nurseries by communities since they require permits (EIA) for pumping sea water. **RTA suggested that the proposed actions should be included in the project proposal.**

9. *"Community Consultations and Gender and Youth Assessment in Seychelles" Presentation* by Ms. Elke Talma, Community Development Specialist for Seychelles

9.1. The Community Development Specialist for Seychelles presented briefly on the deliverable for Seychelles part namely:

i. Community Development Plan
ii. Gender and Youth Assessment report
iii. Gender and Youth Assessment Action Plan

9.2. She informed that Seychelles has no community per say. She presented a list of stakeholders consulted in Seychelles and listed them according to their importance and influence. She also presented an action plan of the involvement of the community, youth and women in the proposed project.

9.3. CDS Seychelles pointed out that women in Seychelles were not considered as vulnerable. **RTA requested to document this statement since there is an international belief that women are vulnerable**.

9.4. Discussion:

9.4.1. Representative of Seychelles informed that all the stakeholders listed could not be used (e.g. prisoners) and that the list should be reviewed. **It was agreed that representatives from Seychelles would submit their views on the list to the Team Leader.**

9.4.2. **In order not to indicate government institutions as "low importance", which could be wrongly interpreted, it was agreed that "importance" of stakeholders would be replaced by "relevance"**.

9.4.3. It was pointed out that there was a shortage of experienced divers in Seychelles. Presently, the experienced divers that do monitoring works were composed of volunteer international divers that continuously need to be renewed. It was noted that one of the priorities of the project would be to **recruit an oceanographer/marine biologist with experience in coral reef restoration offering a long term contract** so as to ensure continuity. These leaders/scientists and other staffs could be recruited nationally or internationally. **It was also proposed that a training video be produced to assist in the training of new recruits**. It was also proposed to include courses at university level in coral rehabilitation.

9.4.4. One proposal made so as to generate some income from rehabilitation works is to have some sacrificial sites, whereby tourist divers could get access so as to get some restoration experience. RTA pointed out that there was a high risk whereby the tourists may believe that they can do the same thing outside the sacrificial nursery.

9.4.5. Alternatively, representative of Mauritius suggested having glass bottom boats passing through the sacrificial sites or snorkelling (not diving), which are less damaging practices. **It was agreed that the project could also evaluate how these practices affect the nurseries and coral reefs during the first 2 years of implementation**.

9.4.6. It was agreed that training need to be targeted (for both Mauritius and Seychelles):

i. Public education: on importance of coral reef and the threat they are facing and the restoration programme so as to increase public interest, support and potential future funding and participation.

ii. International coverage through in flight advertisement in international flights to Mauritius and Seychelles.

10. Presentation by Dr Akiko Yamamoto, UNDP GEF Regional Technical Advisor

10.1. The RTA presented the theory of change. She explained that there is the assumption that actions link to impacts. As such she requested all participants to use this theory in the preparation of the logical framework when presenting the impacts and outputs. She explained that this will provide the rational for

the implementation of the project by project managers and implementers. The assumptions need to be clear for all stakeholders so as to ensure successful implementation of the project in the future.

11. Presentation of the by Dr. Sarah Frias-Torres, International Consultant – Team Leader

11.1. The Team Leader elaborated on the proposed project alignment with the AF Results. She also presented the two tables of Part III, regarding the result frameworks (Table E) and the project alignment of the Result Framework to the Adaptation Fund (table F). She explained what was expected from the working sessions for Mauritius and Seychelles. She stressed on the importance to show SMART indicators, their baseline and targets. She also requested to work on the budget allocated for each budget as indicated in the table for "project components and financing".

12. Outcome of working session –Component 1 and 2

12.1. It was agreed that the wording for outcomes should remain as in the Concept Paper and that the outputs could be modified in order to meet the respective outcomes.

12.2. Groups for Mauritius and Seychelles have worked on the results framework. Mauritius informed that due to limited budget only two sites will be considered (one in Mauritius and one in Rodrigues). The site at Anse La Raie has been excluded.

12.3. **It was agreed that the final draft result framework will be submitted to the Team Leader by Monday 26 June 2017. The team leader will thereafter merge all the components and submit same to the RTA on Tuesday 28 June 2017.**

13. First day of the Regional Steering Committee ended at 18:00hrs.

DAY 2

14. <u>Outcome of working session – Component 3:</u>

14.1. Half of the budget for Component 2 will be used for the payment of Chief Technical Advisor, local consultant, regional components (e.g. website, Regional Steering committee and relevant travel costs, publication, attending international symposium etc) and the remaining budget (USD 400,000) will be equally divided between Mauritius and Seychelles.

14.2. Due to limited budget, it was agreed genetic connectivity studies between Mauritius and Seychelles would not be implemented.

14.3. Subject to budget availability, Mauritius and Seychelles could present the results of the coral reef restoration project at a high-level international symposium (e.g. WIOMSA, the 2020 International Coral Reef Symposium ICRS). Estimated cost to send one representative from Mauritius and one from Seychelles is about USD 15,000 (conference registration, travel and accommodation, per diem). **RTA informed that the project proposal should include a rationale for the participation and reminded that the presentation should include climate change adaptation.**

14.4. Requirements for both countries:

i. It was agreed that all publications for the proposed project will be done in open access journals and that the fees association (several hundred USD) for publishing will be earmarked.

ii. It was agreed that a website will be created to present progress of the project. It will present project implementation progress for both countries.

14.5. Actions to be undertaken by Mauritius:

i. Due to availability of molecular biology laboratory facility in Mauritius, genetic analysis for identification of resilient corals will be undertaken by Mauritius (MOI). Seychelles will send coral tissue samples to MOI for analysis. Seychelles will cater for the required permits and shipping cost. Mauritius will require funding for consumables and chemicals for genetic analysis.

ii. Regional training on GIS mapping. It was agreed that the budget needs to be earmarked for equipment, GIS licences and workstations for both countries.

14.6. Actions to be undertaken by Seychelles:

i. Regional training on micro fragmentation and fusion of massive corals.

ii. Regional training on socio economic and environmental monitoring (e.g. fish population monitoring). The monitoring methodology should be standardised so as to have comparable results for publication.

iii. Updating of Toolkit on lessons learnt to share the experiences in both countries. RTA requested that the toolkit should also take into consideration Climate Change adaptation, and benefits of scaling up.

14.7. The possibility to purchase giant clams (about 500) has been raised, subject to fund availability.

14.8. The Committee agreed that all expenses related to the regional training will be catered by the host country (i.e. venue, transport, DSA etc.)

14.9. It was agreed that the preliminary table for component 3 will be sent to the Team Leader by Monday 26 June 2017.

15. Outcome of discussion on Full cost of Adaptation reasoning and Project Justification

15.1. The UNDP Environment Programme Officer explained that contrary to GEF requirement, there was no need to secure letter of financing to secure funds from AF Board. However, there is need to describe how the funding from AF Board will improve on the baseline (works carried without AF Funding). There is need to justify all the funds going for adaptation.

15.2. It was agreed that Team Leader should provide a list of works that was being/would be carried out by NGOs and Governments for coral reef rehabilitation (e.g. erosion control, coral reef monitoring, marine protection actions put in place, MPA protection actions etc.). Based on these information, there is need to indicate how the AF funding will enable the countries and the region to improve coral reef rehabilitation and to strengthen climate change adaptation. It was noted that the project document required a small paragraph on each of the action already taken. If required the full document could be annexed in the AF project proposal.

16. **Outcome of discussion on Project Implementation Arrangement and National and Regional Level.**

16.1. The implementation arrangement has been agreed as follows:

16.1.1. Implementing Partners: UNDP

16.1.2. Executing Partners:

i. Ministry of Environment, Energy and Climate Change (Seychelles)

ii. Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping (Mauritius) (including Albion Fisheries Research Centre, AFRC and Mauritius Oceanography Institute, MOI)

16.1.3. Project Coordination Unit:

i. Project Manager : 1 for Seychelles, 1 for Mauritius

ii. Project Assistant: 1 based in Mauritius

iii. Chief Technical Advisor (part time): for the Region (Mauritius and Seychelles)

iv. M&E : for the region

16.1.4. Responsible Parties:

i. Nature Seychelles (It was noted that the responsible parties will sign an MOU with the Government of Seychelles)

ii. Seychelles National Parks Authority (SNPA)

iii. Marine Conservation Society of Seychelles (MCSS)

iv. For Mauritius, the Ministry of Ocean Economy (Mauritius) need to decide on how NGOs will be involved. There are three possible options, through: (1) SGP (2) call for proposal by UNDP; or (3) call for proposal by Government of Mauritius. Some of the advantages and disadvantages of each options are as follows:

a) If opt to fund NGO through SGP, this will involve a fee of 16% (6% admin cost to UNOPS and 10% for SGP GEF). Advantage: SGP will do the monitoring.

b) If call for proposal is made by UNDP, a letter of agreement will be signed between UNDP and the NGOs, 10,000 USD charge will be levied for each call for proposal from

the project funds. Monitoring will done through monitoring committee chaired by the Project Manager.

c) If call for proposal is made by Government, no management fee will be required. Letter of agreement will be between Government and the NGOs. Monitoring will be through monitoring committee chaired by the Project Manager. The disadvantage is the lengthy government procurement procedure (approx. 6-9 months).

16.1.5. Regional Steering Committee and National Steering Committees. It was agreed that all gender and community issues will be taken on board at all Steering Committees. It was also suggested that the prodoc should be shared with the Gender Specialist at Regional Steering Committees to review and ensure due diligence with regard to mainstreaming gender in the prodoc.

16.1.6. Workshops (inception, midterm review, terminal, and final evaluation).

17. Way Forward

17.1. The RTA presented the way forward for the submission of the project proposal to the AF Board. The table showing the road map for AF submission and remaining task required for UNDP approval are tabled at ***Annex 3***.

17.2. The major milestones include:

- Finalisation of the project proposal (require inputs from stakeholders, team leader, the National Community Specialists and the Project Coordination Unit) (18 July 2017)
- Submission of the final draft project proposal to UNDP HQ review (27 July 2017)
- Formal submission of final project proposal to AF Secretariat (07 August 2017). RTA informed that AF might require feedback with a very short deadline (end August/beginning September 2017). As such **rapid responses will be required from all stakeholders.**
- Preparation and submission of 2 project documents using UNDP format (one for each country) to stakeholders for review (21 August 2017);
- Approval of Project Documents in Local Project Appraisal Committee (LPAC) during the first week of October 2016. It was agreed that the LPAC meeting will be held in Seychelles. The Environment Programme Officer informed that depending on funds available, a site visit at the coral reef restoration sites at Praslin and Cousin Islands could be organised. Nature Seychelles informed that they would facilitate the organisation of the proposed site visits.

18. The second day of the Regional Steering Committee ended at 17.00 hrs with a vote of thanks from each Country.

Annex 1

ATTENDANCE LIST

Name	**Designation**	**Organisation**
Mr. S. Springett	UNDP RR & UN RC	UNDP Mauritius & Seychelles
Mrs. Akiko Yamamoto	Regional Technical Advisor on International Waters	UNDP GEF
Mr. Satyajeet Ramchurn	Head of Environment Unit	UNDP Mauritius
Mr. Roland Alcindor	Programme Manager	UNDP Seychelles
Dr. Sarah Frias-Torres	Team Leader – AFB Coral Restoration Project	AFB Coral Restoration Project
Ms Annouchka Ramcharrun	Project Assistant ***(Secretary)***	UNDP Mauritius
Ms. Emilie Wiehe	Community Development Specialist – Mauritius	AFB Coral Restoration Project
Ms. Elke Talma	Community Development Specialist – Seychelles	AFB Coral Restoration Project
Mr. Jude Bijoux	Technical Assistant	UNEP-EBA project
Mrs. Lyndy Bastienne	National Coordinator	GEF SGP Seychelles
Mr. Satish Khadun	Divisional Scientific Officer	Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
Mr. Suraj Bacha Gian	Research Scientist	Mauritius Oceanography Institute
Mr. Fabiani Appavou	Analyst	Ministry of Finance & Economic Development
Mr. Nirmal Shah	Founder and Chief Executive Officer	Nature Seychelles
Mrs. Kerstin Henri	Director	Nature Seychelles
Mrs. Ashley Dias	Conservation Officer	Ministry of Environment (Seychelles)
Mr Alain de Comarmond	Secretaire Principal	Ministry of Environment - Sychelles
Ms Isabelle Ravinia		Seychelles National Parks Authority
Mr Savinien Leblond	CICP	MCSS
Mr Ben Taylor	Marine Educator	Wise Oceans

Annex 2

Third Regional Steering Committee

AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

Care House, Mahe, Seychelles

Day 1 - 20 June 2017

	TIME	TOPIC	FACILITATORS
1	09:00 – 09 30	Registration	UNDP Seychelles
2	09 30 – 09 45	Opening remarks - UNDP Resident Representative, Representative of the Designated Authority from the Government of Seychelles Representative of the Designated Authority from the Government of Mauritius	
3	09:45 – 09 55	Objectives, Agenda of Regional Steering Committee, timeline of Project Formulation	S Ramchurn, UNDP Mauritius
4	09:55 – 10:45	Status of Proposal preparation and work accomplished since the Second Steering Committee Proposed outcomes. Outputs	Sarah Frias Torres, International Consultant
	10:45 – 11:00	Tea Break	
5	11:00 – 11:30	Presentation of Community Consultations in Mauritius – Gender and Youth Assessment, the proposed Gender/Community Action Plan (This session is linked to Part II Sections C & I)	E Wiehe
6	11 30 – 12 00	Proposed project alignment with the AF Results Framework. (This session is linked to Part III Section F)	Sarah Frias Torres
	12:00 - 13:00	Lunch	
7	13 00 – 13 30	Presentation of Community Consultations in Seychelles – Gender and Youth Assessment, the proposed Gender/Community Action Plan (This session is linked to Part II Sections C & I)	E Talma
8	13 30 – 13 45	Guidance on expectations on the working session	Sarah Frias Torres
9	13 45 – 15 15	Working group session – each group to go through the proposed Results Framework, verify the proposed text, fill in info gaps, and propose how sustainability will be ensured for each Outcome beyond the project. (This session is linked to Part III Section E, and Part II Section K: Sustainability, and Group 3 on Part III Section C)	Group 1 (on Comp 1) – Mauritius & SR Group 2 (on Comp 2) - Seychelles & RA Sarah roaming as a resource person
	15 15 - 15 30	Tea Break	
10	15 30 – 16 30	Presentation of Results Framework: Comp 1 and Sustainability Plan	Mauritius
11	16 30– 17 30	Presentation of Results Framework: Comp 2 and Sustainability Plan	Seychelles
12	17 30 – 18 00	Wrap up of the Day 1	Sarah Frias Torres

Day 2 – 21 June 2017

	TIME	TOPIC	FACILITATORS
13	9 00 – 10 30	Working group on Component 3 Mauritius Working group on Component 3 Seychelles	Sarah Frias Torres Akiko Yamamoto
	10:30 – 10 45	Tea Break	
14	10 45 – 11 30	Debriefing of working groups on Component 3	
15	11 30 – 12 00	Project Budget (Part III Section G)	Sarah Frias Torres, International Consultant
	12:00 - 13:00	Lunch	
16	13 00 – 13 45	Discussion on Full Cost of Adaptation reasoning and Project Justification (Part II Section J)	
17	13 45 – 14 15	SESP and proposed Social and Environmental Risk Management (Part III Section C)	Emilie/Elke
18	14 15– 15 30	Project Implementation Arrangement at national and regional level - proposed NIEs, potential partners (Responsible Parties), Project Governance Structure (Part III Section A)	Roland Alcindor, UNDP Seychelles
	15 30 – 15 45	Tea Break	
19	15 45 – 16 15	Monitoring and Evaluation (Part III Section D)	Satyajeet Ramchurn
20	16 15- 16 45	Way forward • Roadmap for AF submission • Remaining tasks required for UNDP approval • Expected next steps	A Yamamoto
21	16 45 – 17 00	Closing Remark	UNDP RR Government of Seychelles

Required/Expected Actions	By whom	By when
Circulate the draft minutes of the 3rd PSC meeting to all participants	UNDP	26 June
Submission of the Results Framework, the Full Cost of Adaptation Reasoning to UNDP and stakeholders	Sarah	28 June
Comments sent to Sarah	ALL	4 July
Submission of the revised proposal to UNDP and stakeholders for review and comments	Sarah	18 July
Comments sent to Sarah	ALL	24 July
Submission of the revised proposal to UNDP, incorporating comments	Sarah	27 July
Submission of the proposal to HQ for review and clearance	Akiko/Feven/Satyajeet	1 August
Formal submission of the Proposal to AF Sec	UNDP HQ	7 August
Appraisal and Approval of the Proposal	AFB at the 30th Board meeting	10-13 Oct
Submit the first draft Prodoc and SESP in the UNDP format to UNDP and stakeholders for review and comments	Sarah/ Annouchka	21 August?
Comments sent to Sarah	ALL	28 August?
Submit the revised draft Prodoc with all required annexes to UNDP and stakeholders	Sarah	4 Sept?
Circulate the revised Prodocs to stakeholders	UNDP	11 Sept?
PSC will meet to appraise and approve the prodocs - Local Project Appraisal Committee (LPAC) meeting	ALL	Oct?
Submission of the Prodocs with LPAC minutes to HQ for financial and technical clearance	Akiko/Feven	Oct
Delegation of Authority Letter is sent from HQ to UNDP Mauritius with the final prodocs	UNDP HQ	
2 prodocs circulated for signature	UNDP Mau	
Signing prodocs!!!	Govts, UNDP	

AFB Project Formulation Grant
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

REPORT ON ALL CONSULTATIONS WITH STAKEHOLDERS
19 MAY 2017

This report provides a detailed analysis of stakeholder consultations related to the project proposal to the Adaptation Fund Board (AFB) for "*Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future*". The consultation results shown here will be incorporated into the final project proposal.

The stakeholder consultations were completed during several meetings held in Mauritius and Seychelles and included the following:

In Mauritius

- AFB Regional Steering Committee Workshop, with Mauritius and Seychelles participants, 8th May 2017
- Mauritius Stakeholder Workshop, 9th May 2017
- Meeting with UNDP lead team, 9th May 2017
- Field visit to Blue Bay Marine Park, 10th May 2017
- Meeting with the Mauritius Oceanographic Institute, 11th May 2017
- Meeting with Rodrigues expert, 11th May 2017

In Seychelles

- Seychelles Stakeholder Workshop, 12th May 2017
- Field visits to potential coral donor sites in Praslin 13th-14th May 2017
- Meeting with Nature Seychelles, 15th May 2017
- Meeting with UNDP lead team, 15th May 2017

AFB Regional Steering Committee Workshop, 8th May 2017

Attendees-Mauritius: Ministry of Fisheries, Ministry of Ocean Economy, Mauritius Oceanographic Institute, Albion Fisheries Research Center

Attendees-Seychelles: Nature Seychelles, Seychelles National Parks Authority (SNPA), Ministry of Environment, Energy and Climate Change (MEECC), Marine Conservation Society of Seychelles (MCSS), Wise Oceans

Attendees-International: UNDP, UNDP Consultants (Team Leader, Mauritius Community Specialist and Seychelles Community Specialist).

Activities: The Workshop agenda is shown in Appendix 1. A detailed list of all attendees is included in Appendix 2

Logical Framework for the proposed project proposal
The log-frame shown on pages 11-12 "Expected Outcomes" column of the AFB proposal Concept Note was used to guide the group discussion. Some issues were not answered completely will be completed via email for the final proposal document.

Component 1 (Mauritius) and Component 2 (Seychelles): Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs

Employment establishing and maintaining coral nurseries and transplantation sites
The most important limitation here is that the group assumes the coral reef restoration project is going to generate employment opportunities for the local communities. This should be addressed in detail through the Mauritius and Seychelles stakeholder workshops.

Improved fish catches as reef health improves through the coral reef restoration activities
The fish population must increase where the communities are fishing. But the sites targeted for coral reef restoration in both countries are marine reserves. Therefore, an explanation should be provided at the final proposal on how the coral restoration activities are going to benefit the fishermen.

A solid body of research shows that marine reserves do increase opportunities for fishermen, through the spill-over effect, where the increasing fish numbers move in and out of the marine reserve, and become available for fishermen. However, the increases in fish landings as a result of the marine reserve are detected at least 5 to 10 years after the no take marine reserve is established. It is possible that fishermen will detect increases in biomass due to the coral restoration effort inside marine reserves after and beyond the timeline of project completion. Therefore, additional benchmarks of project success must be presented.

Increased revenue from tourism (glass bottom boat tours, snorkelling and diving trips)
This outcome needs community-based tourism, so the earnings generated through tourism go directly back to the community and not to a hotel consortium alone. The benchmarks to measure progress should be agreed on. For example, biodiversity surveys, recreational SCUBA divers and SCUBA diver satisfaction surveys should display an upward trend.

Coral colonies of appropriate species (resilient, maintaining genetic diversity) available at sufficient scale (quantity, time intervals etc) for transplanting onto degraded reefs.
During this workshop, there was no agreement on scale, number of corals and species that need transplanting. However, it was agreed to follow general guidance on heat tolerant species provided by McClanahan (2017) and species used during the USAID-funded Reef Rescuers project in Seychelles.

Methods (nursery to transplantation)
There was no general consensus on methods. However, a consensus was reached that what has worked so far for each country should be applied. For example, Mauritius has used bottom fixed

table nurseries (4-6 m deep) for small scale restoration (usually 100 corals per nursery) while Seychelles has used mid-ocean floating nurseries anchored at the seabed (18 m anchor depth, corals floating at 8 m below sea surface) for large scale restoration (5,000 corals per nursery for a total of a 40,000 coral stock, Nature Seychelles in Cousin Island).

The issue of how to obtain corals for filling up the nurseries was discussed briefly. Mauritius can obtain corals by fragmentation (asexual reproduction), where fragments are used to fill the ocean nurseries, and by collecting eggs from mass coral spawning events (sexual reproduction) which are then allowed to settle at inland nurseries, and either grow there or eventually moved to ocean nurseries. In contrast, Seychelles does not experience mass coral spawning because at equatorial latitudes, mass spawning is absent. Restoration efforts here have focused on fragmenting corals to fill nurseries. To ensure a large number of corals for restoration, inland nurseries will have to be used to host wild corals and trigger mass spawning by conditioning, then collecting the spawn and allow them to recruit in the inland nursery, including growth phase there, or moving to ocean nurseries for fast growth prior to transplantation.

Component 3 (Mauritius and Seychelles) Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration

How to fill the knowledge gaps and join resources
Upscale scientific production (papers, conference attendance), training knowledge, wide use of broadcast media and social media

Genetic analysis training
The need for genetic analysis should be clearly articulated. For example, corals that have survived El Niño events are expected to be more heat resistant than those that died. Hence they can become donors for fragmenting and filling nurseries. This approach was done at the USAID-funded large-scale coral reef restoration project led by Nature Seychelles. Most of the restored reef survived the 2014-2016 El Niño.

Genetic analysis of symbionts clades resistant to high water temperatures provides an additional layer of assurance that the corals selected as donors will be more heat tolerant. Therefore, this kind of genetic analysis, and the subsequent training required, can be seen as a priority for the AFB project.

The group also proposed genetic analysis to see how coral reefs in Mauritius and Seychelles are connected through exchange of coral larvae. However, this type of connectivity studies is very time consuming and requires an extensive number of field sites to be analysed. Further, Seychelles coral reef restoration activities targeted for the 5-year AFB project will focus on the granitic islands of the Seychelles Plateau. Coral reefs in this region depend on self-recruitment, as they are effectively cut off from other sources of larvae by the pattern of ocean currents that go around (and not through) the Plateau. The genetic connectivity analysis could be an interesting addition to the project if additional funding, not direct AFB funding, is secured.

AFB Comments to Concept Note

Expand on how the approach taken in Mauritius will be done in synergy with other conservation measures, such as MPAs, which are said to have more potential for contributing to natural reef recovery, provided that some active reef restoration is undertaken at the same time

There was no full consensus on how Mauritius will address this point. However, it was agreed that the coral restoration effort should be implemented in MPAs where there is adequate enforcement.

Include a better description of the business-oriented approach proposed in the two countries, and particularly in Seychelles

A detailed business plan was presented by Nature Seychelles and will be included in the final proposal document

Ensure that, although rated as low, the risks identified during UNDP's Social and Environmental Safeguard Policy screening and requiring further assessment and management, are reflected in the table and other sections provided in the AF proposal template.

Risks will be better identified combining stakeholder input with the Gender & Youth Assessments

Mauritius Stakeholder Workshop, 9th May 2017

Attendees: Reef Conservation, Eco-Sud, VLH, AFRC, AHC, VOM/EMS, Constance Hotels, Atlantis Diving, Hilton Hotels, Shangri-la Hotels, UNDP, UNDP consultants (Team Leader & Mauritius Community Specialist). A detailed list of all attendees is included in Appendix 2.

Activities:

- Introduction of the project by S. Ramchurn, UNDP Mauritius/ Dr. S. Frias Torres, International Consultant
- Summary of Reef Rescuers: large-scale coral reef restoration in Seychelles by Dr. S. Frias Torres, International Consultant
- Summary of past & ongoing coral restoration implemented by NGOs: Reef Conservation, EcoSud and EcoMode Society
- Brainstorming

Brainstorming

The following section shows the questions addressed during the brainstorming session. Questions not answered or in need of more details will be completed via email for inclusion in the final AFB proposal.

Summary of past & ongoing coral restoration implemented by NGOs and other organizations

Reef Conservation

- Started in 2004 and dedicated to the Conservation and restoration of the coastal and marine environment of Mauritius
- Conservation outreach and community involvement with 9 dedicated staff

- Monitoring of coral bleaching and artificial reef structures, crown of thorns population control, identification of endemic species, voluntary marine conservation area program at Roches Noires Lagoon and Anse La Raie Lagoon
- No capacity in coral reef restoration
- Future plans: Development of coral rehabilitation / restoration actions including coral nurseries, coral transplantation on natural and artificial reefs within VMCAs

EcoSud

- Started in 2000 and dedicated to the preservation of the natural resources of Mauritius
- Lagon Bleu project started in 2010, focused on community-based coral farming to enhance communities' capacity to contribute to management, conservation and rehabilitation of coral reefs ecosystems in order to improve their resilience for sustainable livelihoods and economic development.
- The Lagon Bleu project includes in-situe coral nurseries fragments (started in 2017) to facilitate the growth and expansion of coral cover in at-risk areas within the lagoon and a Community-based Marine Protected Zone (CMPZ) to help address overharvesting and anthropogenic degradation on marine ecosystems
- A coral transplantation site has not been selected yet
- Conflicts with the local fishing community because they are against the presence branching corals (Acropora), arguing the corals don't allow them access to their fishing grounds
- Disconnect between the importance of corals to provide habitat for the fish the fishermen want, and what he fishermen perceive as a nuisance (the corals)

EcoMode Society – University of Mauritius

- Project: Reef Rehabilitation of the Lagoon of Mauritius– An initiative of Sun Resorts to develop an eco-touristic approach for Climate Change Mitigation
- Aim: to create an in situ coral nursery at Point-aux-Feuilles to mitigate coral reef degradation
- Project still in initial phase; focus in 2010-2016 small scale research projects has been on coral aquaculture, coral recruitment, shipwrecks and measuring primary productivity

Capacity, skills and interests that stakeholders can bring to the project

Reef Conservation

No boat, 3 sets of scuba gear, cameras, surveys, temperature sensors, pH loggers. In need of: resources to build nurseries and transplant process. Team: community involvement, depends on site where nursery is located; people without scuba diving certification in need of training; NGO has existing team of 4 certified SCUBA divers but they can also outsource the work to recreational scuba divers through a volunteer program. Follow up with more detailed resources list via email.

Ecosud

Boat available with boatman and engine; team of 3 certified SCUBA divers, but gear must be rented; camera, and pH meter, but no temperature dataloggers. They have the resources to build nursery and complete transplantion. In need of more divers from the diving centers. Target restoration size is 5,000 coral fragments. Follow up with more detailed resources list via email.

EcoMode Society – University of Mauritius
Their representative left the session before brainstorming started. Follow up with more detailed resources list via email.

National and international expertise needed
Both Reef Conservation and EcoSud need training, for nursery techniques and coral transplantation

Benchmarks and monitoring requirements
Both Reef Conservation and EcoSud have their own coral reef monitoring in place including coral cover, water quality, temperature, salinity, pH, dissolved oxygen, fish counts, coral bleaching and coral diseases. Reef Conservation has a nursery site selected and they are still looking for transplantation site to expand future projects. Ecosud has a nursery site selected and working on it, but they are still looking for a transplantation site.

Knowledge production and communication (scientific papers, dissemination through the media)
Reef Conservation incorporates social media for general projects and it is interested in contributing with scientific papers. They are registered members of the Western Indian Ocean Marine Science Association (WIOMSA) and have presented work at WIOMSA conferences and attended the 2016 International Coral Reef Symposium. If the AFB project brings more funding, they are interested in increasing their scientific production, social media, broadcast media, and outreach.

Ecosud has an ongoing social media campaign, and involves the local community with brochures and pamphlets including an education program for schools. They are interested in producing scientific papers if funding support is available.

Training of trainers
Both Reef Conservation and EcoSud agreed that the best way to approach training needs was through the Training of Trainers scheme, where a selected group of their personnel gets trained in coral reef restoration techniques and they in turn become trainers for future participants within their respective NGOs.

Vulnerable groups and gender considerations
Reef Conservation: Now, the participating community depends on village location and private tour operators; women (40-50 years old), and younger people (20-25 years old); married women usually not involved depending on culture. For future expansion, they want to include the same people building on what experience they have, expand to more activities, trying to have more women included, and other social groups identified as vulnerable in the area where work is to be completed.
EcoSud: Now they involve boat operators, skippers, fishers in region, and they even have female skippers. For future operations they want to expand on what they have.

An added risk, that might affect already vulnerable groups, is the future occurrence of cyclones. The last one was in 1994, so they are now waiting for the big cyclone to occur.

Private sector involvement (hotels) in the coral reef restoration efforts

The hotel representatives were informed that the AFB project will not pay the hotels to do their own coral restoration work but the project will provide trained personnel to guide their restoration work. The actual cost of coral reef restoration within hotel/beach premises will be the responsibility of the hotels and resorts. The hotel representatives and Mauritius hotel association agreed to transfer what was discussed during the workshop to their supervisors.

The potential sponsoring schemes proposed where: several hotels sponsoring one coral garden, or one hotel/resort sponsoring one coral garden.

The hotel representatives listed their expectations for coral reef restoration (sponsoring coral gardens): Get Mauritius back to the status it had in the early1990s, as an attractive diving destination with corals and colourful reef fish, and make Mauritius in general a more attractive destination to tourists.

An important challenge identified for coral reef restoration to succeed was the legal aspect of it. Many eco-projects have failed due to legal matters, the difficulty to set the project, and the extremely long permitting process due to excess bureaucracy in Mauritius.

Hotels confirmed that their clients are interested in contributing to sustainability and coral reef restoration is a good gateway to incorporate such need. Most hotels present at the workshop either have dedicated dive centers within their premises or have tight collaborations with dive centers. These are resources they can provide to restoring coral gardens. However, hotel staff is in need of training in coral reef restoration, and they have the willingness to learn. The core staff to be trained must be identified, and following the Training of Trainers scheme, they can then become trainers to other staff.

Potential participants also include the tourists themselves. Offering a 1-day dive pack of "coral reef restoration experience" can increase tourist participation and awareness. This approach can act as a positive feedback loop. For example, Blue Bell Travellers reported a 10 % increase among travellers choosing sustainable destinations from 52 % five years ago to 62 % last year.

Site selection for new hotels was also addressed, specially the need to reduce impacts on existing coral reefs, reduce sedimentation, monitoring before, during and after hotel construction.

Additional comments on Mauritius communities

Can Mauritius fishermen be recycled into other jobs? It depends on age, and resources. For example, fishermen trained as boatmen for ecotourism (new opportunities with the restored reef) need special license and boat requirements, insurance and new safety equipment; they are not able to cover the cost of the new job activity unless they receive some form of subsidy.

Younger fishermen with experience are easier to train in new jobs than older fishermen. Younger fishermen also know how to swim (older fishermen do not swim) so they also have the potential to become divers for coral restoration purposes.

There are fishermen that do not want to be trained in other jobs, but the system should provide training opportunities for those who are willing to change profession. Based on previous experiences with marine eco-guide training, even the fishermen who did not want to change jobs proposed to have their children participate in the training, so their children will have a different option in life, as the senior fishermen see there are less and less fish to catch. Therefore, when approaching training opportunities for fishermen, it is important to look at the potential training of different age groups. The use of the word fishermen is accurate for Mauritius, as the only fisherwomen are found in Rodrigues

A general problem in Mauritius is that many people do not know how to swim properly (no statistics were provided at the workshop). The main reason is that people are afraid of sharks that are no longer there. Parts of Mauritius are in danger of sea level rise, and the lack of swimming abilities in the majority of the Mauritius population has reached the level of a national emergency. Part of the actions for adaptation to climate change should include learning how to swim.

Meeting with UNDP lead team, 9th May 2017

This meeting served to compare notes of the AFB Regional Steering Committee meeting, with Mauritius and Seychelles participants, and the Mauritius Stakeholder meeting. It also provided further guidance on how to complete the remaining consultations.

Meeting with the Mauritius Oceanographic Institute (MOI), 11th May 2017

The MOI director was unavailable for interview. During this meeting MOI staff and Albion Fisheries Research Center staff were available. Throughout the meeting, they had several questions about methods and processes applied during the USAID-funded Reef Rescuers project in Seychelles. These questions were explained.

The log-frame shown on pages 11-12 “Expected Outputs” column of the AFB proposal Concept Note was used to guide the interview. Some issues were not answered completely due to the absence of the MOI director and will be completed via email for the final proposal document.

Stakeholder analysis completed and partnership agreements drawn up with private sector and community groups

The Gender and Youth assessment will be completed by the assigned UNDP consultant. The MOI staff clarified the Blue Bay Marine Park, one of the sites selected for coral reef restoration, is managed by the Albion Fisheries Research Center. They might require a Memorandum of Understanding (MOU) with the Ministry of Ocean Economy to define activities and ensure proper disbursement of funds. Further, the unique management structure of the Rodrigues South East Marine Protected Area (SEMPA), the second site for coral reef restoration activities, might require its own MOU.

Business plans in place for sustainable financing and maintenance of restoration initiatives
The business plan for Mauritius is unclear at this point. A number of hotels are interested in participating in coral reef restoration (see previous section on stakeholder meeting).

Fisher/women/youth community groups trained in establishment and maintenance of coral nurseries
Several skill levels are needed in the coral reef restoration activities and the different job profiles must be clearly defined. For example there are non-diving activities that can be done by women and youth. Fishermen can be trained as eco-guides, and also as boatmen for the coral restoration activities.

MOI staff proposed to focus the effort on the communities, for example, having the coral nurseries based at the community level, so the community takes care of growing the corals, and they can sell them to the hotels, so the hotels have corals to restore their coral gardens. This approach will ensure a new income line for communities, but it also requires strong enforcement to make sure communities are not selling wild corals, only corals grown in nurseries. More training is required to set up a regulatory framework.

Coastal communities and public aware of the need for reef restoration and the potential of coral farming as an alternative livelihood
Already covered in the section above. The national radio and television should be involved to increase public awareness of the restoration activities. The Ministry of Tourism should also be involved.

Reports on coral reef status, water quality, and other key environmental and social parameters for potential nursery sites
Baseline data (coral reef status, water quality, environmental data) and maps for the Blue Bay Marine Park in Mauritius and the Rodrigues South East Marine Protected Area (SEMPA) are available. These data and maps provide the baseline to select potential nursery sites. The social parameters will be added based on the reports of the other consultants.

A land-based nursery and 2 or more ocean nurseries established and maintained on a regular basis
The Blue Bay Marine Park (BBMP) in Mauritius and the Rodrigues South East Marine Protected Area (SEMPA) were selected as the sites to host ocean nurseries and restoration reefs. The BBMP has already a nursery site selected inside the reef lagoon with working table nurseries attached to the seabed (see site visits section), but no restoration site has been selected. The SEMPA has no nursery or restoration sites selected.

The land-based nurseries were set up by MOI as an experimental project, and have been dismantled, but they will be built again if the AFB project is funded. The nurseries will be used for coral spawning, post-spawning care and coral recruitment.

Stock of farmed corals available for transplantation
Since the MOI director was unavailable for consultation, it was not possible to agree on a specific target for the stock of farmed corals. The MOI staff has the capability of building ocean

nurseries to hold up to 1,000 corals. The first target to enter the large-scale coral reef restoration threshold is set at 10,000 corals. Building and maintaining 10 nurseries with 1,000 corals each was seen as a possible target, but the exact number needs confirmation from the MOI director.

The MOI staff also requested help in selecting the species to be grown in nurseries based on their hardiness to high water temperatures.

Reports on reef health and diversity, water quality, species diversity and key parameters for all transplantation and control sites
As in the previous section for the nursery sites, some baseline data are available for selecting transplantation and control sites, but a more detailed survey should be completed during Year 1 of the AFB project.

Component 3: Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration
The MOI staff and Albion Fisheries Research Center staff were unsure how Component 3 could be accomplished. Input from the MOI director is needed. However, all participants agreed that field visits at the nursery and restoration sites in each country are needed to better understand how the different techniques can be adapted to the needs of each site.

Meeting with Rodrigues expert, 11th May 2017

Time limitations did not allow for a field visit to Rodrigues by the UNDP consultant-Team Leader. However, Mr. Azie Jean Lindsay, from Rodigues, and a past Program Assistant for the Rodrigues South East Marine Protected Area (SEMPA) was available for an interview. An edited version of the interview follows.

The Rodrigues South East Marine Protected Area (SEMPA) is co-managed by the government and the community of Rodrigues. The SEMPA was initiated five years ago as part of a UNDP project. A map of Rodrigues with the different management areas color-coded was developed with the collaboration of the fishermen, private sector and government (The map is available for inclusion in the final AFB proposal). Although the conservation zone is respected with various levels of enforcement, it has extensive degradation and need for restoration. Within the conservation area, fishing is prohibited, but tourist access is possible. Within the multiple-use area, fishermen can use fishing line. The SEMPA is a coral lagoon system, with the start of the fringing reef towards its edges. This should be taken into consideration when planning the coral restoration activities.

The Rodrigues community is highly motivated and receptive to coral reef restoration. Due to the government/community co-management, the community must be involved during Year 1, when the baseline surveys will be used to choose the coral nursery and restoration sites within the SEMPA. Many community members are open to receive SCUBA training and participate in coral restoration activities. They expect restoration activities could generate new income and also bring in more tourism when the coral reef is restored. A potential source of conflict when selecting coral nursery and restoration sites is the octopus fishery. It is illegal to dive (SCUBA or free diving) to catch octopus. When the 10-month octopus fishing season is open, fishermen walk over the lagoon to spear the octopus. Therefor, coral nursery and transplantation site

selection must incorporate octopus fishermen zone use, because corals cannot be grown or transplanted where fishermen are walking.

Seychelles Stakeholder Workshop, 12th May 2017

Attendees: Nature Seychelles, Marine Conservation Society of Seychelles (MCSS), GVI, Wise Oceans, Seychelles National Parks Authority (SNPA), Ministry of Environment, Energy and Climate Change (MEECC), GEF-PCU, UNEP-EBA, UNDP, UNDP consultants (Team Leader & Seychelles Community Specialist). A detailed list of all attendees is included in Appendix 2.

Activities:
Summary of past & ongoing coral restoration implemented by NGOs and other organizations

- Nature Seychelles
- Seychelles National Parks Authority
- Marine Conservation Society of Seychelles
- Wise Oceans

Brainstorming
Capacity, skills, interests that stakeholders can bring to the project

- Nature Seychelles: large scale coral reef restoration experience, land-sea reserve at Cousin Island, marine laboratory in Praslin (in front of Cousin Island) with dive shed, dive gear, boat, land available to build land-based nurseries.
- Maritime Training Center has a SCUBA diving training module and could supply divers
- Use local dive centers for training purposes when SCUBA dive certifications are needed
- University of Seychelles students during their vacation breaks, and as part of their environmental projects
- Cast wider net to find the people needed for the project: Octopus divers can be retrained as SCUBA divers, some GVI volunteers are already SCUBA certified
- MCSS is community based: limitations on SCUBA certified personnel.
- SNPA has personnel limitations and are constrained by the administrative system in place so they cannot recruit anyone; a recruitment procedure must be followed controlled by the Administration. Scientific leaders are scarce: they have some skilled staff but they need new staff to get certified and leaders for the long-term sustainability of the project beyond AFB funding.

Current projects financed and value addition of AFB and sustainable framework

- There is a need for a long-term approach: the Seychelles government must be involved to ensure a long term investment into coral reef restoration. This request was repeated several times throughout the workshop and the government representative did not provide a clear commitment to a long term approach, although several funding schemes were suggested (i.e. SEYCCAT)
- MPAs need finance to implement their activities, including coral reef restoration
- The AFB Project is a Climate Adaptation Project, not just another environmental project. Long-term financial sustainability is only possible with institutional commitment beyond the 5-year project lifetime. Income generating activities should be added back into the

project, including the involvement of the private sector. There is a need to work around constrains institutions might have to ensure the long-term sustainability.

- There was emphasis on the good accountability and sustainability from the financing side, so the project goes on after AFB funds end.
- Potential financing opportunities through SEYCCAT: There will be set themes determined by the Board, and these themes will change with each call for proposals, although some themes might be consistent from one call to another. Therefore, SEYCCAT will not fund coral reef restoration indefinitely. Grants will be 1 year (Small Grants) or 3 years long (Large Grants) but not longer.
- Funding at the Regional level through the Western Indian Ocean Coastal Challenge: this funding scheme is still in its infancy (similar to Micronesia and Caribbean Challenge) in collaboration with Indian Ocean Commission.
- There is a need to show a business case so activities will continue as sustainable income streams
- The Seychelles government must treat coral reefs with the same importance it treats forests (i.e. Valle de Mai) and the government must take responsibility for sustained support to coral reef restoration nation-wide. If the government does not provide reliable long-term support to coral reef restoration then it is critical to seek business activities that will generate income.
- The Seychelles government aims for a 30 % protection of marine resources, which should include coral reefs. There is a financing plan with PCU involvement for MPAs; the proposals are there, but they are still waiting for Government Commitment for financing plans
- A potential venue for financial planning could include adjustments of visitor rates and incomes where the money is allocated to coral reef restoration. This is not a new funding line but a relocation of funds generated from increased visitor/tourist rates and retention of revenue into MPAS, so activities such as coral reef restoration are financed from this relocation of money

Human Resources

- The Principal Secretary for MEECC, Alain Decomarmond insisted in involving the University of Seychelles – Blue Economy Research Institute (UniSey-BERI) in the project, including student and researcher participation
- Current UniSey-BERI resources are limited: they are still recruiting researchers and developing their educational programs, now up to the BSc level, with planned MSc and PhD levels in the future
- Students can use their free time to incorporate into the work activities of the project, related to environmental work and considered part of their on the job training; this scheme would be similar to the work-study programs seen in British and US Universities.
- There is a pool of existing UniSey-BERI students already doing internships with various NGOs; the system is already in place but students must be made aware of the potential opportunities with the AFB coral reef restoration project. However, the project will be water based, and a review is needed to ensure students have the necessary in water training.

- The diversity of groups involved will need different opportunities tailored to the needs and abilities of the different groups. For example, boatmen are needed to operate the coral restoration boats; based on past experience, fishermen from Praslin are a great resource as boatmen but they need a contract (salary), and locating good boatmen requires asking through the community
- Women in the job market are not an issue in Seychelles as in other African countries because equality of opportunities has been reached. However, based on past experience, women were less interested than men in changing jobs. There are even ranger women, and their numbers are set to increase.
- Issues of youth and gender: at the University of Seychelles most students are girls, but at the Maritime Training Center, most students are boys. Then, boys drop without graduating at a higher rate than girls.
- Retraining: based on experience with forest training, currently employed people are willing to be retrained if the retraining will offer them an immediate opportunity of improvement in position or salary or both
- Other potential beneficiaries: the Youth Council could add more people, connecting with young people; they must be aware of the opportunity
- Key indicators for the AFB final proposal: it is critical to identify specific beneficiaries, communities, households, and other community indicators with actual numbers so benefits of the project can be quantified
- Justification to AFB: even within MPAs activities must be identified that can be measured and assessed at the start, middle, and end of project to better quantify benefits going into the community. For example, when quantifying tourism, the umbrella effect must be included: fee rates, boat use, people employed in associated tourism activities, engine parts, gasoline, and other workers related to the tourism effort. A benchmark can be obtained rom previous project assessments such as those in Cousin Island. This approach can be built into the project as part of the assessment needed to show impacts
- The need for a holistic reef restoration approach was also suggested, meaning giant clams should be restored in addition to corals. There is a prior successful technique to restore giant clams, *Tridacna maxima* in Seychelles (Frias-Torres 2017), and a giant clam stock is available at the Black Pearl Farm in Praslin Island. However, the giant clams will have to be purchased from the Farm.
- Addition of institutions for Component 3 in Seychelles:
    - Marine Conservation Society of Seychelles (MCSS) has an ongoing small-scale community-based coral reef restoration project and could build on it.
    - GVI is not fully committed to coral reef restoration as it has other priorities but it could be a potential source of divers that need training
    - Wise Oceans can contribute to education and outreach
- Other institutions which currently have no experience in coral reef restoration can provide staff to be trained as part of the capacity building component, for example Island Conservation Society (ICS)
- There was a discussion for a call for proposals, as suggested for the Mauritius project component, where different institutions could propose additional coral restoration projects. However, neither the review system needed to select proposals through such call nor the amount to be earmarked to support the call were indicated.

Meeting with Nature Seychelles, 15th May 2017

This meeting allowed to review the information gathered during the previous workshops (Regional Steering Committee and Mauritius and Seychelles stakeholders) as it related to the Seychelles component of the AFB project.

To keep a consistent structure with the AFB approved Concept Note and within the final proposal and in future communications, it was agreed to reference the original institutional structure listed in the cover page of the Concept Note as follows.
Implementing Entity: UNDP
Executing Entities for Seychelles:

- Ministry of Environment, Energy and Climate Change (MEECC) receives funds from AFB and distributes to the other executing entities
- Nature Seychelles (lead role in the implementation of project activities)
- Seychelles National Parks Authority (SNPA)

Other institutions that will participate in the project are added through Component 3. These institutions include the Marine Conservation Society of Seychelles (MCSS) with an ongoing small-scale community-based coral reef restoration project, and other institutions that could benefit from capacity building.

Due to the mixed government-NGO characteristics of executing entities for the Seychelles project component, Nature Seychelles proposed the need to set up a Memorandum of Understanding (MOU) where the responsibilities and amounts assigned to each entity are clearly explained. The MOU suggestion was explained to UNDP-Seychelles in the final meeting for feedback.

One of the core AFB comments to the Concept Note was the need to further explain the business plan for Seychelles. The business plan was shown during the AFB Regional Steering Committee Workshop by a presentation from Nature Seychelles. This information will be added to the final proposal.

Nature Seychelles, as the executing entity with a lead role in implementing project activities further clarified the selection of coral restoration sites. The selected sites include:

- Cousin Island (a land-sea no take reserve managed by Nature Seychelles) the location of the USAID-funded Reef Rescuers project, with an existing restored reef (25,000 nursery grown corals transplanted), and a nursery site with midwater ocean nurseries
- Curieuse Island (a no take reserve managed by the Seychelles National Parks Authority) with an ongoing small scale coral reef restoration project

Both sites can benefit from use of common nurseries, as Cousin and Curieuse Islands are close enough to be supplied from the Cousin nursery site if needed.

Other sites for coral reef restoration activities can be added through Component 3 with the collaboration of other NGOs (i.e. Marine Conservation Society Seychelles, MCSS).

The mid water floating ocean nurseries at Cousin Island will be filled with fragments from coral survivors of previous El Niño events and with sexual recruits. Nature Seychelles also owns land

next to their marine laboratory in Praslin Island (in front of Cousin Island), to build land-based nurseries using AFB project funds. These nurseries will allow conditioning of corals, trigger mass spawning, and obtain sexual recruits for later seeding of the ocean nurseries.

Meeting with UNDP-Seychelles, 15th May 2017

This meeting involved setting the dates for the upcoming validation workshop in Seychelles. To avoid conflicts with national holidays and other agenda issues, the workshop was set for 20-21 June 2017.

A major concern addressed at this meeting was the inability or lack of interest of representatives from the University of Seychelles/Blue Economy Research Institute (BERI) to participate in the Seychelles stakeholder meeting, or to attend repeated calls for face-to-face interviews. In spite of several requests of Principal Secretary for the Ministry of Environment, Energy and Climate Change (MEECC) Alain Decomarmond to include the University as a main stakeholder in the AFB project, it is unclear at this point how UniSey/BERI can be involved.

Further to UniSey/BERI involvement is the lack of infrastructure for genetic analysis. Component 3-Capacity building identifies the need of Mauritius and Seychelles selected participants to be trained in genetic analysis. Mauritius has laboratory facilities to complete genetic analysis but Seychelles has no facilities, and there is no current UniSey/BERI or Seychelles Government commitment to build such facilities. Therefore, UNDP-Seychelles agreed the best approach would be for Seychelles selected participants to still receive the genetics training but upon return to Seychelles, focus on collecting biological tissue, send the tissue samples to Mauritius and have the genetic analysis completed in the Mauritius facilities.

Unlike the Mauritius component of the AFB project, where all executing entities are part of the government, the Seychelles component has two government entities (MEECC receiving and distributing funds from AFB, and Seychelles National Parks Authority) and one NGO (Nature Seychelles) as executing entities. Therefore, it was agreed that the mixed nature of the executing entities in Seychelles requires the drafting of a Memorandum of Understanding (MOU) where the responsibilities and amounts assigned to each entity are clearly explained.

Field visits

Blue Bay Marine Park (BBMP), Mauritius

This Marine Protected Area has been selected as one site to implement the coral reef restoration project activities in Mauritius. The other site will be located in Rodrigues. A guided field visit was provided by staff from the Mauritius Oceanographic Institute (MOI). BBMP is a reef lagoon system, with freshwater river discharges and fringing red mangroves at one end, and a fully developed lagoon ending at a reef crest throughout the park. The reef crest at the edge of the park is well developed, and does not seem to have suffered erosion of its three-dimensional structure resulting from coral death, which suggests the more exposed side of the Park was not significantly affected by the 1998, 2010 and 2014-2016 El Niño. Therefore, the reef crest is effective at dispersing ocean wave energy, the reef lagoon is protected from major wave swells,

and the beaches do not show signs of erosion. This situation is reversed in Seychelles, where massive coral death from the 1998 El Niño effectively reduced the three dimensional structure of the reef crest. The result in some islands, such as Praslin, is that the reef crest around the island only protects from wave energy during mid to low tides. During high tide, the waves wash over the reef crest and reach the beaches, causing chronic erosion.

The BBMP has an assigned coral nursery site, with three table nurseries currently operational, each holding approximately 75 corals. There are plans to set up more nurseries. A coral restoration site will be selected during year 1 of the AFB project. The table nurseries are anchored at the sandy seabed, about 6 m deep. They are made of galvanized metal and the corals are located at the intersections of length-width crossbars. Due to the shallow depth of the lagoon, this nursery structure it the most appropriate for the characteristics of the site. The water quality allows for good light exposure to the corals (low suspended sediment load). MOI has long-term water quality data of the site, and the data are available for inclusion in the AFB final proposal if needed. A freshwater layer rested on top of the deeper marine layer covering the first 25-50 cm of the sea surface. This was probably the result of recent rains before the field visit. The presence of freshwater suggests the possibility of nutrient transport from the freshwater tributaries on the edge of the lagoon, and enhanced feeding opportunities for the corals growing at the nurseries, when the coral polyps come out at night to feed on plankton. Therefore, the location of the coral nurseries in the lagoon could accelerate coral growth with additional feeding opportunities. The nurseries are located near a shallow water reef. This lagoon reef has a high diversity of coral species, mostly dead, but showing signs of recovery. There is a significant fish fauna associated with the reef. During the visit, parrotfish and surgeonfish were seen feeding on the nurseries, eating the algae and invertebrates stuck to the metal bars. Hence, the fish community is reducing diver time needed to clean the nurseries, a situation that was well documented in the USAID-funded Reef Rescuers project implemented in Seychelles (Frias-Torres et al 2015).

Rodrigues, Mauritius

Time limitations did not allow for a field visit to Rodrigues by the UNDP consultant-Team Leader. An interview with Mr. Azie Jean Lindsay, from Rodigues, and a past Program Assistant for the Rodrigues South East Marine Protected Area (SEMPA) is provided in this report.

Cousin Island and Curieuse Island, Seychelles

In Seychelles, coral nurseries and restoration sites will be based at Cousin Island (managed by the NGO Nature Seychelles) and Curieuse Island (managed by the Seychelles National Parks Authority). The UNDP consultant-Team Leader led the USAID-funded Reef Rescuers project in Cousin Island, and conducted additional research in Curieuse Island. Therefore, field visits to these sites were not needed. Details about the sites have been published in the scientific literature (Frias-Torres & van de Geer, 2015; Frias-Torres et al, 2015; Montoya-Maya et al, 2016; Frias-Torres, 2017).

Anse Lazio, Praslin, Seychelles

In Seychelles, the mass coral bleaching and death from the 1998 El Niño (up to 97% of corals died in the granitic islands), and recurrent coral death in the 2014-2016 El Niño make the search for healthy coral donor sites a priority for successful coral reef restoration. Ideally, these should

be corals that have survived both El Niño events, because they show resilience and adaptation to high water temperatures as confirmed by scientific studies (Baker 2003, 2004; McClanahan 2017). In addition to the donor coral sites targeted during the USAID-funded Reef Rescuers project (Frias-Torres & van de Geer, 2015; Frias-Torres et al, 2015; Montoya-Maya et al, 2016), a new donor coral site was surveyed during the field visit. This site is located in Anse Lazio, starting on the East side of the beach, and following the contour of the glacis boulders. Large bommies (isolated submerged reefs) of branching acroporid and pocilloporid corals, and isolated massive corals were found in good condition alternating with dead corals. The depth range was 4-8 m. The Anse Lazio site is a potential donor site that should be considered in the field site assessments planned for Year 1 of the AFB project.

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APPENDIX 1

Second Regional Steering Committee

AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

8 May 2017

TIME	TOPIC	RESOURCE PERSONS / FACILITATORS
09:00 – 09 30	Registration	UNDP Mauritius
09 30 – 09 45	Opening remarks - UNDP Resident Representative, Representative of the Designated Authority from the Government of Seychelles Representative of the Designated Authority from the Government of Mauritius	
09:45 – 09 55	Objectives, Agenda of Regional Steering Committee, timeline of Project Formulation	S Ramchurn, UNDP Mauritius
09:55 – 10:45	Comments on Concept Note and Presentation of Proposal Template Format and information requirements	Sarah Frias Torres, International Consultant
10:45 – 11:00	Tea Break	
11:00 – 11:15	Experiences in Coral Restoration/Expectations from the project with reference to the Business approach	Nature Seychelles
11:15 – 11 30	Experiences in Coral Restoration	Jude Bijoux David Rowatt
11:30 - 11 45	Experiences in Coral Restoration//Expectations from the project	Mr S Bachagian, Mauritius Oceanography Institute
11 45 – 12 00	Status of Marine Protected Areas in Mauritius	Ministry of Ocean Economy
12:00 - 13:00	Lunch	
13 00 – 13 30	Initial consultations from the Mauritius Community Development specialist / Brief intro for Seychelles/ Workplan	E Wiehe/E Talma
13 30 – 15 00	Logical Framework for the proposed project proposal	Sarah Frias Torres
15 15 – 15 45	Environmental and Social Management – Risks identified	Akiko Yamamoto
15 45 - 16 15	Tea Break	
16 15- 18 00	Discussion and way forward	
18 30 – 20 00	**Cocktail**	

APPENDIX 2

This appendix contains a detailed list of attendees for the:

- AFB Regional Steering Committee meeting, with Mauritius and Seychelles participants, 8th May 2017
- Mauritius Stakeholder meeting, 9th May 2017
- Seychelles Stakeholder meeting, 12th May 2017

Meridien_2017

Second Regional Steering Committee						
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future						
Le Meridien Hotel, Balaclava						
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Second Regional Steering Committee

Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

Le Meridien Hotel, Balaclava

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Consultation with NGOs on Coral Restoration Projects and Opportunities
The Ravenala Attitude
09-May-17

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ADAPTATION FUND

UNDP

AFB PROJECT PROPOSAL GRANT: STAKEHOLDER CONSULTATION

SFA TRAINING ROOM · 12th May 2017

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Annex 7

2017

Community Development Plan Mauritius

In preparation of the proposal submitted to the Adaptation Fund Board: Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future

ADAPTATION FUND

UNDP

Community Development Plan

Table of Contents

1. Introduction

The Community Development Plan was commissioned as part of the development of the proposal "Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future" submitted by UNDP to the Adaptation Fund Board, for implementation in the Republic of Mauritius and Seychelles. The Community Development Plan aims to:

- Assess how the project will benefit vulnerable groups and coastal communities in general
- Select potential communities to benefit from the project
- Identify community concerns and linkages with UNDP and AFB corporate gender mainstreaming requirements (addressed in the Gender and Youth Assessment)

Community engagement in coral nurseries provides potential opportunities to local stakeholders – NGOs, community members, coastal users - to become key players in ecosystem based adaptation, supporting increased involvement and awareness, local economic development and a skilled workforce for coral reef rehabilitation. Experience in other sites around the world have shown that community based interventions coupled with adequate training can support the co-management and rehabilitation of coral reef resources in a cost-effective way. The success of the community based approach has been said to rely on, amongst others:

- strengthening of community based participants in theoretical as well as hands-on training and education in coral farming
- strengthening preventive management and maintenance of coral farming facilities
- participation and engagement as a means to enable effective behavior change communication and outreach for coastal resource management and
- empowering communities in decision making and problem analysis tools to manage coral reefs in the face of climate change[1]

The above objectives are key to meeting the overall project objectives, as the proposed intervention aims to (1) increase food security through the rehabilitation of coral reefs which support fish habitats and encourage the recovery of reef fish communities important to the local community; (2) reduce disaster risks by restoring the protective barrier function provided by coral reefs.

During the Second Steering Committee meeting, three potential sites were earmarked for coral reef rehabilitation namely: Blue Bay Marine Park, Anse La Raie voluntary conservation area, and SEMPA. The sites were further narrowed down to two during the Third Regional Steering Committee meeting due to budgetary constraints and the risks surrounding enforcement in a voluntary conservation area. The following report provides a brief socioeconomic background for each site, the main challenges faced by local communities with a particular emphasis on fisher and vulnerable groups, as well as these communities' aspirations in relation to the project. These combined with exchanges with Executing Entities as to roles and responsibilities provide the basis for the development of the action plan.

[1] Hernández-Delgado, E et al (2014) Community-Based Coral Reef Rehabilitation in a Changing Climate: Lessons Learned from Hurricanes, Extreme Rainfall, and Changing Land Use Impacts. *Open Journal of Ecology*, **4**, 918-944.

2. Methodology

Desk review – a list of major stakeholder groups was drawn up at the onset of the project development phase using existing reports of projects funded on the coastal area and emphasis on women led projects and project integrating youth to inform the subsequent fieldwork. Consideration was also given to local private sector stakeholders.

Key Informant Interviews and Informal Interviews – Interviews were carried out in consideration of coastal villages most likely to benefit from the project and based on the feasibility of coral gardening and farming. These have in turn informed the mapping of stakeholders and provide the basis for the elaboration of the community development plan, the gender and youth assessment and action plan. Discussions and interviews were conducted in: Mahébourg and Blue Bay, Cap Malhereux and Anse-La-Raie, and Balaclava Marine Park, as well as consultation meetings in Rodrigues. A meeting was held with the Association des Hôtelier et Restaurateurs de l'Ile Maurice (AHRIM). Interviews were also conducted with key non-governmental organizations intervening in coral reef conservation and rehabilitation, namely:

- Reef Conservation
- Eco-Mode Society
- Eco-Sud Lagon Bleu Programme
- Le Barachois Project – Environmental Protection and Conservation Organisation

In Rodrigues, the following organisations were consulted:

- The Commission for Environment, Forestry, Fisheries and Marine Parks (Rodrigues)
- Shoals Rodrigues (NGO)
- Rodrigues Council of Social Services

Canvassing – Canvassing was carried out proposed to ensure that vulnerable and underserved groups would not be left out of the equation. Through key informants, informal interviews were held with village inhabitants and information was gathered in order to include the maximum number of stakeholders as well as underserved and underrepresented groups and stakeholders.

Focus Groups – Focus groups were carried out among community members in the coastal areas of Cap Malheureux and Mahébourg/Blue Bay as well as consultations among key stakeholders in Rodrigues:

- The focus groups have identified processes that already work well and common visions of success for the project and their communities in relation to climate change adaptation
- A SWOT analysis was developed following the focus groups to identify Strengths, Opportunities, Aspirations and Results taking into consideration what each stakeholder group will bring to the project
- Definition of Goals, Objectives and Action Plan: From the above processes, SMART goals and objectives and subsequent action plan were developed based on overall feedback and expectations expressed by stakeholders.
- Partnerships and Roles & Responsibilities: partnerships and roles and responsibilities were defined following input from community members through the

focus groups and through the consultation workshop held on Tuesday 9th May, 2017 with local stakeholders.

- Due to time constraints, community workshops per say were not carried out. Community members in Cap Malheureux and Mahébourg requested that more time be given to sensitize members of their communities in climate change and ecosystem-based adaptation as well as larger environmental issues, in order to gather sufficient support and garner active participation.

3. Background

As a Small Island Developing State, Mauritius is highly dependent on its coastal resources for survival. These very resources are highly threatened by climate change. Most coastal villages historically have been developed as a result of fishing which has been passed on from one generation to the next, with tourism, hotels and bungalow development occurring much later as of the 1970s. In contemporary Mauritius, tourism has replaced fishing as the main coastal economic activity, however fishing has remained very important culturally and economically at village and household levels on the coastal zones.

Coastal fisheries include lagoon and outer reef areas and are the main source of fresh fish supply. It is estimated that there are currently 3,700 fishermen registered with the Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping, using around 1,500 boats and with an annual production of approximately 900 tons. The types of gears used include pole and lines, basket traps, large nets, gill nets and harpoons.

Fisher communities have described as being among the poorest in Mauritius. According to the Report of the Truth and Justice Commission (2010):

> *"An alarming situation faces this category of workers, and their problems need to be addressed by Authorities. Over the years, the lagoon of Mauritius and its outer reefs have been over-exploited, so much so that, presently, the average catch per fishermen is estimated at 6.4 kg. This represents, on the basis of 180 fishing days, an income of only Rs. 3,000, one of the lowest in the country. The allowance granted to professional fishermen in times of bad weather, and during the close season for net fishers, is far from sufficient for a decent living. This Sector is thus witnessing desertion by the young generation of fishermen."*[2]

Amateur fishing has been cited by registered fishers in this same report and re-iterated during interviews as an important consideration in addressing overuse of lagoon resources as well as food security concerns. This claim is further supported by Maclanahan et al. (2013) which found that there was an important mismatch between country level statistics and the local realities of dependence on fishing either as a primary or a secondary source of income[3].

Amateur fishermen are perceived as individuals who have access to other sources of income yet still decide to fish in the lagoon. Interviews with amateur fishermen in Mahébourg has revealed that for many – though not all – this is their only source of revenue, and often live in very precarious conditions. These negative perceptions of amateur fishermen also

[2] Truth and Justice Commission "Volume 1: Report of the Truth and Justice Commission", 2010, 255-260
[3] Timothy R Macclanahan, Edward H Allison and Joshua Cinner, "Managing fisheries for human and food security", *Fish and Fisheries* 16, no1 (2013):8

reflect the dearth of information and data on their activities, impact, as well as their own living conditions: how many are solely dependent upon the marine environment, how many fish as a means of subsistence to complement their meagre incomes in other fields, and how many are more "organized poachers". This lack of information and data is partly explained by the difficulty for new fishermen to register with the relevant Ministry due to government policies to reduce the impact of artisanal fishing on the lagoon.

Focus group discussions revealed a lack of contact between amateur fishers and government institutions as well as NGOs. Due to the illegal nature of their activity, they revealed that they are not always comfortable in formal discussion forums. Nonetheless, the amateur fishermen interviewed were very eager to take on a more important role in the management of their resources. In some areas such as in Résidences La Chaux (Mahébourg) they had good relations with registered fishermen whereas in others such as Balaclava, registered fishers had very negative perceptions of amateur fishermen. Further in-depth studies on the situation of amateur fishers, their profile and impact on the lagoon is recommended. It is clear that such a study does not fall within the scope of this project. Nonetheless, amateur fishermen could negatively impact the management of the project and could potentially be negatively impacted by it as well. Ways to improve inclusion of amateur fishermen/women are explored in section 3 "Stakeholder engagement".

Tourism businesses, most importantly hotels, were identified as key project partners in the implementation of the project. Hotels occupy 41.9 km of the 322 km coastline of Mauritius[4]. Tourism employs 45,500 persons representing 8.2% of total employment in 2016. This figure is augmented to 24.3% of total employment when considering jobs indirectly supported by the industry. The direct contribution of travel and tourism to GDP for the same year was estimated at MUR36.0bn (USD1.0bn) representing 8.4% of total GDP[5]. The impact of tourism on the health of reef ecosystems has been important. Tourism was identified as the second most important stressor of back-reefs after sea surface temperature, followed by artisanal fishing[6].

Hotels have been very keen to engage in coral restoration activities. Their interest is partially driven by the prospect of engaging their clients in restoration activities in order to provide value-addition to the tourism product offered by their establishments. It has been reported that at times, their endeavors were ill-advised for the proposed sites, or the facilities inadequate. In the gradual shift away from artisanal fishing, many youth have turned to tourism jobs, and tourism remains an important alternative for vulnerable groups in coastal areas. The role of hotels in terms of mitigating their impact on the coral reef ecosystem, ensuring the financial sustainability as well as community involvement is key to ensure the long-term sustainability of the project.

The Blue Bay Marine Park Area

The Blue Bay Marine Park has been earmarked as a site for the implementation of the project. The Marine Protected Area's legal framework came into effect in 1997 first through the National Parks Act of 1993 and was subsequently declared a Marine Park in 2000

[4] Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
[5] World Travel and Tourism Council "Travel and Tourism Impact 2015 Mauritius", retrieved from https://www.wttc.org/-/media/files/reports/economic%20impact%20research/countries%202015/mauritius2015.pdf
[6] Jennifer Elliott, "Coral reef status in Mauritius: historic trends and recent perturbations" (Phd diss. Northeastern University, 2016), 7-8

through the Fisheries and Marine Resources Act of 1998. Blue Bay consists mostly of a tourist village, with beach bungalows used by Mauritians and some rented out to tourists, a public beach which accommodates a large number of Mauritians on the weekends, approximately 100 boat operators registered in the park carrying out glass bottom visits in the park and other outings - though not all every day - and currently two main hotels directly adjacent to the Park: Shandrani Resort and Spa, a five star hotel, Le Peninsula Bay Resort and Spa, the construction of a new hotel on La Cambuse beach and last, a number of guesthouses in the near vicinity.

Many people who work in and around Blue Bay Marine Park are Mahébourg residents, with an important proportion living in Résidences La Chaux. The latter neighborhood is located directly on the coast and its socio-economic structure is intimately tied to the sea. Résidences La Chaux commonly referred to as “Cité La Chaux” has been designated a pocket of poverty by the National Empowerment Foundation. Other vulnerable areas include Cité EDC in Beau Vallon and Cité Tôle, an extension of Cité La Chaux occupied by squatters for several decades. The latter area counts approximately 30 registered fishermen who operate at fish landing stations in both Mahébourg and Pointe d’Esny, but it has been deemed by villagers that the area counts almost double the number of amateur fishermen. Mahébourg has been designated as a vulnerable coast, with 1442 persons likely to be affected by coastal inundation by 2065[7]. The total number of registered fishermen in Mahébourg including Cité La Chaux and Cité Beau Vallon is 164. The majority (approximately 72% identified in a survey) of registered fishermen in the area are over 50 years old[8], whereas it has been reported by community members interviewed that the individuals known as “amateur fishers” are youth. Fishermen in the Mahébourg area overall deemed that fishing conditions had degraded over the years, and most described a fish catch decrease; others attributed the degrading conditions to overfishing (15%), illegal fishing activities (11%) and instability in weather and climate (10%)[9].

There are a number of other coastal villages further north of the Blue Bay Marie Park and the Grand Port Fishing Reserve, the latter which is the closest Marie Protected Area located in proximity to Blue Bay Marine Park. These include Ville Noire, Grand Port, Grand Sable, Bois des Amourettes, Quatre-Soeurs in addition to the Blue Bay area itself. These villages are heavily dependent on the marine environment for their livelihood. The villages north of the Park described above, namely Vieux Grand Port, Grand Sable, Bois des Amourettes have been listed among the most deprived and vulnerable in the country. They rely heavily on fishing and micro-scale farming for subsistence as well as seasonal work and cash from informal labour.

Despite the management measures in place, the over reliance of these communities on coastal resources for fishing and tourism puts pressures on the very resources which they depend on to survive. There is an urgent need to shift some of the pressures put on the lagoon on sustainable livelihoods, and linking coral restoration efforts – a labour intensive endeavor – holds promise as a means to ensure alternative livelihoods, especially for fishermen.

[7] Japan International Cooperation Agency Kokusai Kogyo Co. Ltd., “Guideline for Climate Change Adaptation Strategy - Coastal Setback”(2016) The Republic Of Mauritius Ministry Of Environment, Sustainable Development, And Disaster And Beach Management

[8] EPCO “Feasibility study: developing community-based mariculture in the Barachois of Residences la Chaux/Mahebourg: final report” 2016

[9] Ibid.

The implications of ecosystem-based adaptation measures must thus be considered in the context of these local realities and the intricate ties that these communities hold with the sea and coral reef ecosystem, the links between coastal resource use in the greater Blue Bay and Mahébourg area and the Blue Bay Marine Park.

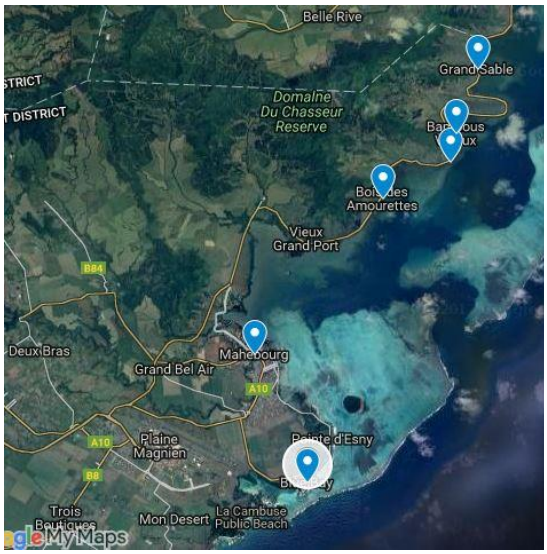


Figure 1 Blue Bay Marine Park and surrounding villages

Figure 2 Blue Bay Marine Park and zoning

Figure 3 Map of Blue Bay Marine Park and targeted neighbourhoods

Marine Protected Areas in Rodrigues: Northern Marine Reserves and South East Marine Protected Area

Rodrigues is a semi-autonomous state in the Republic of Mauritius governed by a Regional Assembly, with a surface area of 108 km^2, a lagoon area of 300 km, and over 41,000 inhabitants [10]. In the Republic's Regional Development Index, Rodrigues was estimated at 0.557 which was on par with the least developed areas of mainland Mauritius[11]. Tourism, fishing, agriculture, as well as small and medium enterprises are the main sectors of the economy.

Fishing is one of the largest employment sector on the island and is part and parcel of the island's culture, with 13% of the workforce dedicated to this activity, and the same amount engaged in fishing on a casual basis[12]. With fisheries in serious decline, fishers have suffered from a loss of income and many have turned to other sources of income to make ends meet[13] [14]. Rodriguans are much more dependent on their lagoon fishery than in Mauritius, both in terms of employment, cultural practice and protein intake.

In order to tackle this growing problem, the Rodrigues Regional Assembly proclaimed four marine reserves in the northern lagoon: Rivière Banane, Anse-aux-Anglais, Grand Bassin and Passe Demi with locations decided upon after extensive consultations with fishers by Shoals Rodrigues, a local marine conservation NGO established in 2001 and other major stakeholders.

With the support of the project "Partnerships for Marine Protected Areas in Mauritius and Rodrigues" funded by the GEF and implemented by UNDP, the Rodrigues Regional Assembly established the South East Marine Protected Area (SEMPA) in 2009, the largest to date in Mauritius. The MPA developments favoured a co-management framework. At the time of the establishment of SEMPA, fisheries were in overcapacity, with more than 950 fishing within its vicinity, and a high number of unregistered amateur fishermen also operating in the same area. Fishing pressures resulted in chronic habitat destruction and degradation of the reef ecosystem.

In the greater SEMPA region, fishing is a core economic activity and households heavily depend on their catch for their own consumption. A socio-economic survey carried out in 2008 revealed that within the villages surrounding the SEMPA area, 66% of households responded that at least one household member is involved in fishing activities; registered fishers are present in 52% of households. The importance of fishing in the region is further accentuated by local consumption, and a vast majority of respondents of the same survey

[10] http://www.tourism-rodrigues.mu/discover-rodrigues/geography-climate
[11] S. K. Sobhee, V. Tandrayen-Ragoobur Dr H. Kasseeah Mr A. Gopaul Mr R. Thoplan "Drinking Behaviour in a Small Island Economy: A Gender Perspective", *Journal of Research for Consumers* 30 (2016)
[12] Hardman, E. R., Desiré, M. S., Raffin, J. S. J., Perrine, S. and Gell, F. R "Marine Reserves for Sustainable Fisheries Management in Rodrigues"
[13] Empowering the SEMPA Fisher Community Through Eco-Tourism Development https://sgp.undp.org/index.php?option=com_sgpprojects&view=projectdetail&id=14364&Itemid=0
[14] Angelie M. Peterson and Selina M. Stead "Rule breaking and livelihood options in marine protected areas", *Environmental Conservation* 38 no.3 (2011): 342–352

indicated that they consume seafood on a daily basis. Household use was the most important use of their catch, however 60% of households also sell seafood for income. The most important fishery is the octopus fishery; other common fishes caught are 'Cordonnier', 'Capitaine', 'Vielle' and other reef fish[15].

The heavy reliance on marine resources for these coastal livelihoods renders these coastal communities very vulnerable the impacts of climate change. During ecological monitoring carried out between 2009 and 2011, patchy coral bleaching was observed both inside and outside SEMPA, corresponding with higher seawater temperatures at the time.[16] In 2016, the worst coral bleaching event was observed, with an average dead coral cover due to bleaching estimated at 51.40% and a remaining mean live coral cover of only 15.63%. Live coral cover has decreased from >35% in 2010 to 15% in 2016[17]. Strengthening MPA management measures and using an ecosystem based approach to adaptation is a high priority for Rodrigues.

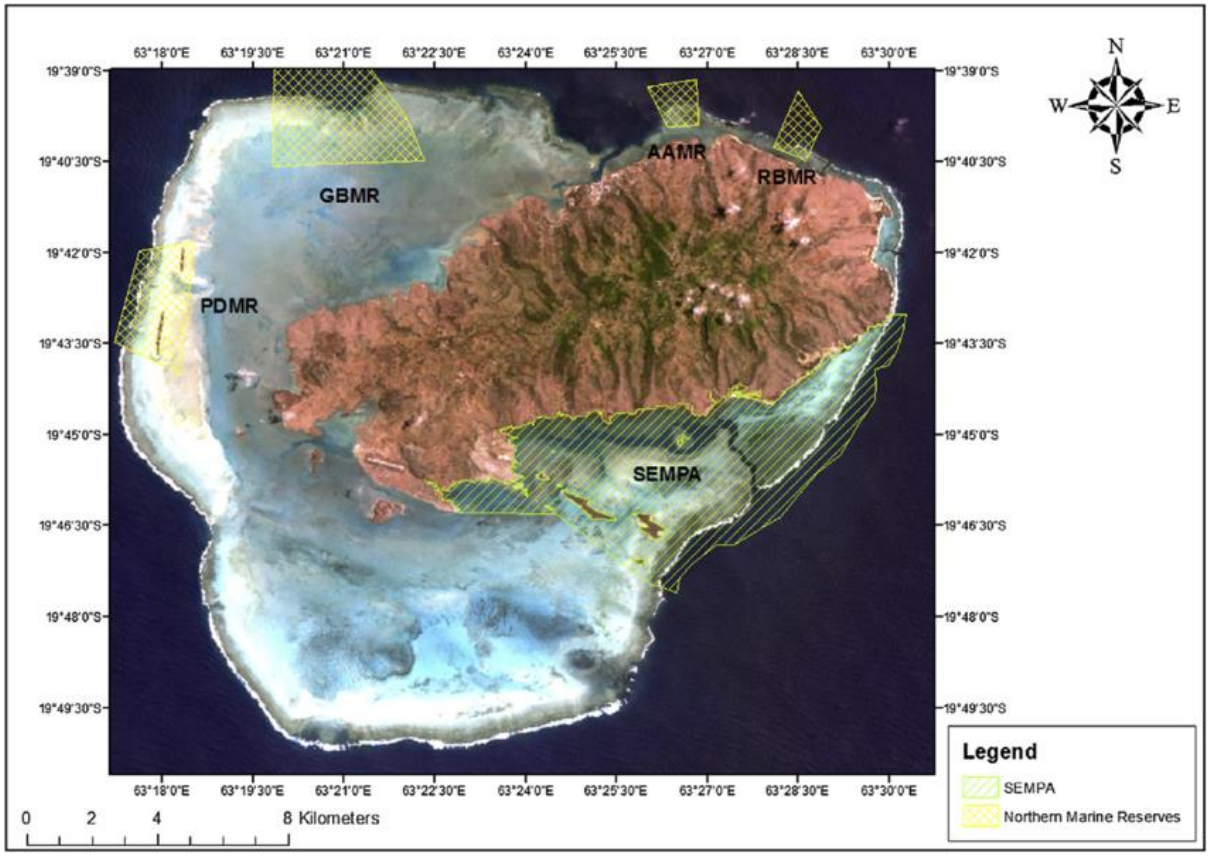


Figure 4 Marine Protected Areas in Rodrigues

[15] Professor Selina Stead Angelie Peterson Dr Aileen Mill Professor Steve Rushton "Analysis of the 2008 Socioeconomic Baseline Survey of the South East Marine Protected Area in Rodrigues" University of Newcastle (2010)

[16] Final Report of the Ecological Survey and GIS Team – Partnerships for Marine Protected Areas in Mauritius and Rodrigues

[17] Rebecca Klaus, Jovani Raffin, Emily Hardman, Runolph Raffaut "Assessing the impact of the coral bleaching event on Rodrigues (Republic of Mauritius) in 2016", prepared by Shoals Rodrigues for the Indian Ocean Commission Biodiversity Project

4. Regulations and Requirements

Both the Adaptation Fund and UNDP require that all projects and programmes be screened for their environmental and social impacts. The social and environmental impacts identified then inform the different project categories.

Stakeholder engagement is a key aspect of project development, and AFB and UNDP require that identification of stakeholders and their involvement shall be carried out as early as possible in the planning and project development phase, with the purpose of building constructive relationship with the stakeholders and mitigating any potential risks in a timely manner.

The Adaptation Fund will disclose the final environmental and social assessment on its website as soon as it is received, and the implementing entities will be responsible for sharing the final assessment to project stakeholders and all project affected people.

UNDP specifies that stakeholder engagement processes should seek to empower stakeholders, particularly marginalized groups, include all relevant views of affected people and other stakeholders into decision-making processes, such as Project goals and design, mitigation measures, the sharing of development benefits and opportunities, and implementation issues.

5. Stakeholder engagement during the project development phase

Following the approval of the concept note by the Adaptation Fund Board, a second phase of stakeholder engagement was undertaken. A list of non-governmental organizations, community groups and stakeholders was drawn up based on reports and personal knowledge of the stakeholders by the consultant.

Meetings and focus groups were held during throughout the month of May 2017 during the elaboration of the full project proposal. The stakeholders consulted included organizations that could contribute to the project as well as community members in the localities adjacent to the sites identified during the Second Steering Committee Meeting held on 8th May 2017.

Organizations/individuals	Location and date
Eco-Mode/University of Mauritius (Nadeem Nazurally, Lecturer and President of Eco-Mode)	University of Mauritius 02/05/2017
Reef Conservation (Kathy Young, Managing Director, Céline Miternique, Head of Research)	Reef Conservation Office, Pereybere 03/05/2017
Lagon Bleu (Josheena Naggea, Programme Manager)	Lagon Bleu office, Blue Bay 03/05/2017
Community member, Cité La Chaux, Mahébourg	Mahébourg 03/05/2017
AHRIM (Jocelyn Kwok, CEO)	Port-Louis 04/05/2017

Boat operators, fishers and “banyan” of Balaclava (brief meeting/introduction)	Balaclava 05/05/2017
Consultation workshops with Team Leader Dr Frias-Torres	Balaclava 09/05/2017
Site visits and bilateral meetings with Executing Agencies (Team Leader)	Blue Bay and Albion 10/05/2017 and 11/05/2017
Meeting with community members of Cap Malheureux (4 women, 1 man) + 1 representative of Reef Conservation (1 woman)	Cap Malheureux 17/05/2017
Meeting with community members of Cité La Chaux, Mahébourg (amateur fishermen, women and youth part of Le Barachois Project), interview with Project Manager Estelle Deja and Community Facilitator Sandy Monrose (EPCO)	Le Barachois, Cité La Chaux 18/05/2017
Meeting with key informant, Cap Malheureux, Marie Anne Grein (President of Groupement Volontaires Cap Malheureux)	Cap Malheureux 23/05/2017
Focus group with community members and boat operators of Cap Malheureux (4 women, 7 men)	23/05/2017
Focus group with community members of Mahébourg/Cité La Chaux (boat operators, amateur fishers, registered fishers, 5 men, 2 women, 1 NGO representative)	Cité La Chaux 26/05/2017
Rodrigues consultations meeting – multiple stakeholders: • Commission for environment, forestry, fisheries and marine parks (Fisheries Research and Training Unit and Environment Unit) • Shoals Rodrigues • Ter Mer Rodriguez • Kitesurfing association • SEMPA • Rodrigues Kitesurfing Association	Port Mathurin 06/06/2017
Meeting with Rodrigues Council of Social Services	Malabar – Rodrigues 06/06/2017
Meeting with SEMPA Management	Port Sud-Est - Rodrigues 06/06/2017
Meeting with Shoals Rodrigues	Pointe Monier - Rodrigues 07/06/2017
Meeting with R. Jhangeer Khan	Port Mathurin – Rodrigues

	07/06/2017
Meeting with N. Nazurally – University of Mauritius / Eco-Mode Society	University of Mauritius

During each meeting, a brief of the project was provided verbally and the concept note sent through email either prior to or after each meeting. Where possible, photos of different coral nurseries and transplantation sites and projects were also shown in order to provide more insight and clarity with regards to what reef rehabilitation entails and its benefits. Sub lists of local stakeholders, key concerns, strengths, weaknesses, opportunities and threats are detailed for each potential site below.

Responses and follow-up actions

- Some issues raised do not fall within the direct scope of the project. However, there are opportunities to raise some of these concerns as part of the management of the Volontary Marine Conservation Area with local NGO intervening on the site: Reef Conservation.

5.1 Blue Bay – Mahébourg – Cité La Chaux

Mahébourg, most precisely Cité Résidences La Chaux includes communities living on the coastal area which are heavily tied to the marine environment and fishing. The following stakeholders were identified for the region:

- Three main hotels (Shandrani, Blue Lagoon, Preskil) as well as smaller guesthouses
- Boathouses and dive centres of these hotels
- Registered fishermen (approximately 60 in the zones closest to Blue Bay Marine Park, up to 200 in the wider region)
- Amateur fishermen (50+, of which approximately 20 to 30% are women)
- Ecosud and Lagon Bleu NGOs
- Mauritian Wildlife Foundation (management of Ile-aux-Aigrettes islet wildlife reserve)
- Barachois Project (EPCO)
- Mauritius Commercial Bank Forward Foundation – Cité Tôle social housing project
- Community-based organisations:
    - Mahébourg Espoir (local school for youth who dropped out of the formal school system, ages 13+)
    - Ocean Women (women's association)
    - Nou Zanfan Cité (led by women, for children's activities such as outings)
    - Jeuness Ouvrière Chrétienne – youth group
    - Mouvement Bien-Etre Cité La Chaux, provides alternative schooling among other activities
    - Association des Personnes Agées
    - Collectif Eco-Guards
    - I Love Mahébourg
    - La Voix de Mahébourg
    - La Patte Canard (snorkelling and diving lessons for underserved youth)
    - Sailing Club

There are 44 registered fishermen in this particulary neighbourhood, but there have been reports of up to 50 amateur fishermen. These amateur fishermen are a diverse group of persons who include:

- Individuals who rely almost exclusively on fishing for their livelihoods (subsistence and cash). They are organized in groups of 6-10 who use boats to go out fishing at night. Since they are not registered, they do not receive any bad weather allowance or grants/loans provided by the government for fishing.
- Individuals who rely on fishing as complementary income or for subsistence. These may include individuals who have seasonal employment, masons, are retired, or unemployed youth
- It was estimated by local amateur fishermen and women that women comprise 30% of this group. These women are mostly gleaners or carry out pole-and-line fishing from the shore.
- A large proportion of these amateur fishermen are also youth who are unemployed.

Strengths	Weaknesses
• All those interviewed individually or during focus groups expressed support for the project and its long term benefits • The area in Blue Bay Marine Park is the area where there is most need for coral reef rehabilitation • Coral nurseries in the lagoon facing Mahébourg next to Ile-aux-Aigrette reserve should be considered, as the water circulation is good and there are specific areas where the nursery would not affect fishing or boating activities • Coral reef rehabilitation provides further incentives for coastal users to protect their resources and respect the code of conduct	• There needs to be more time allocated to get the community on board with this project – between 6 months and 1 year of meetings and consultations as well as annex activities which benefit the community will ensure better participation • The opportunity for direct revenue generation besides tourism and visits of the nurseries and transplantation sites by boat operators remains limited: selling coral fragments from community nurseries to hotels or other interested hotels would open the door to more overexploitation of lagoon resources • Due to the nature of the coral rehabilitation effort and the need to have SCUBA certification in order to be employed by such a project, there is little opportunities to engage marginalized groups on a larger scale, and limited direct employment opportunities
Opportunities	Threats
• Address other climate change and	• Some amateur fishermen and

lagoon management issues and create more synergy between different stakeholders of the area • The project provides an opportunity to raise awareness about climate change, environmental issues at large as well in their respective communities as adaptation measures and solutions to their environmental and ecological problems • More training opportunities including basic trainings on marine ecosystems provided to existing operators as well as marine guides as income generation and alternative livelihoods • The project provides an opportunity for coastal users and stakeholders to address other lagoon management challenges in parallel to the project. Any participatory process in the development of a community-based nursery would provide a channel to address other issues. • Amateur fishermen are interested in having a more important role in the development of the project • The presence of a Community Coordinator/Facilitator would support the community engagement process during project implementation	community members may not find benefit in the project even if they have much to gain from it and can cause disruption of the project stakeholder engagement process during implementation • Conflicts in lagoon use may be further exacerbated by the project (local fish farm contested).

Other discussion points:

- While there is communication between Marine Park officials and boat operators, the opportunities for meaningful participation in MPA management are limited. Boat operators gave the example of feeding fish at snorkel sites: while they have been told that they should not do this, they are unsure as to why, and would welcome more training, including more on reef ecology as well as climate change issues.
- There is conflict with regards to the existing fish aquaculture project and its plans for expansion. Amateur fishers have noted that this project encroaches on their fishing grounds and the wastes produced from the cages attract commercially important fish that they cannot catch as the fish hide underneath the cages; the wastes produced also are a pollution problem and the presence of the farm attracts large predators.
- Some acropora species (locally referred to as ‘Zinzamb’) have grown so much that they overtake other corals such as tabular corals, and block boat passage. These types of corals do not attract other commercially important fish. They hope that the coral nurseries will not include these specific species, and if they do, that other

species that can help support the development of habitats for commercially important fish would be supported.

Responses and follow-up actions

- Some issues raised do not fall within the direct scope of the project. However, there are opportunities to raise some of these concerns as part of the management of Blue Bay Marine Park and synergies between Blue Bay MPA management and the AFB project should be created.

5.2 Rodrigues: Rivière Banane Marine Reserve and South East Marine Protected Area

The following stakeholders were identified for Riviere Banane Marine Reserve and South East Marine Protected Area. This is not an exhaustive list and will be added on as the project further develops:

Government stakeholders: the Rodrigues Regional Assembly, the Commission for Environment, Forestry, Fisheries and Marine Parks, the Commission for Tourism, the Commission for Youth, Community Development, Library Services, Archives and Museum.

Non-governmental organizations: Shoals Rodrigues, Ter Mer Rodriguez, the Rodrigues Council of Social Services, Youth Council

Community based organizations: Comité Villageois, Coopérative d'Ecotourisme de SEMPA, Women's groups.

Fishermen: There are approximately 950 fishermen in the SEMPA region, from the 7 villages located along the SEMPA coastal boundaries

Strengths	Weaknesses
• There is good institutional support for the project • High level of collaboration between commissions and NGOs • Co-management frameworks already established which helps the support community involvement and integration in coral restoration activities • 14 Community Resource Observers (fishermen) already trained in coral reef monitoring, swimming and snorkeling – a basis that can serve for further training • There is generally high compliance with the MPA rules. Out of 950 fishers, there are only about 20 who may be disruptive or infringe MPA regulations. • Community engagement has been part of the development process of	• Limited number of qualified/experienced individuals • Limited experience in coral reef rehabilitation and restoration • The opportunity for direct revenue generation besides tourism and visits of the nurseries and transplantation sites by boat operators remains limited: selling coral fragments from community nurseries would open the door to more overexploitation of lagoon resources • Due to the nature of the coral rehabilitation effort and the need to have SCUBA certification in order to be employed by such a project, there is little opportunity to engage marginalized groups on a larger scale, and limited direct

Rodrigues: historically, villagers have been actively involved in the development of their villages, volunteering for infrastructural works (carrying and installing poles for electricity, pipes for water) • Coral reef monitoring and research has been carried out since the late 1990s, early 2000s around the island and is well documented and available, providing good basis for further research on coral reef restoration • The Club Mer programme managed by Shoals which teaches youth how to swim and snorkel could also bring 30 youth volunteers over the course of the 5 years (approx 8 per year but some may come back from one year to the next • A group of 8-10 qualified divers are already designated as being able to participate in the project - these persons work for the Commissions/NGOs and other entities that will collaborate on this project.	employment opportunities
Opportunities	Threats
• Building local capacity in coral reef rehabilitation • Building on previous lessons learned in coastal management and on existing co-management frameworks • Further re-inforce and build capacity of local community stakeholders • During consultations, it was agreed that a group of 5 fishers / community members could receive dive training, among the Community Resource Observers in order to provide support to the project.	• Some amateur fishermen and community members may not find benefit in the project even if they have much to gain from it and can cause disruption of the project stakeholder engagement process during implementation (minimal threat) • Coral diseases present not well recognized

Other discussion points

- In and around SEMPA, there are approximately 20 individuals who are known to have been disruptive and not respect the MPA rules and regulations. There are risks

that these individuals may be reluctant against any new project within the MPA however the risk is considered low.

- The representatives present during the consultations requested further technical assistance for the installation of nurseries, choice of donor corals. As of date, assessments had not yet been carried out by the representatives present as to the exact sites of transplantation, but general areas were discussed.

Responses and follow-up actions

- Both the representatives of the commissions and the NGOs present agreed that the best institution to house the project would be the Commission for Environment, Forestry, Fisheries and Marine Parks and responsibilities then divided among the different Rodrigues Regional Assembly bodies, the non-governmental organizations and the community based organizations. This requires further clarification and approval from the Executing Entities in Mauritius and UNDP Country Office.

4. Project Stakeholders

Stakeholders	**Interest of stakeholder in relation to AFB project**	**Effect of AFB project on interest (+/-)**	**Importance of stakeholder for success of AFB project** 1 = little/no importance, 2 = some importance, 3 = moderate importance, 4 = very important, 5 = critical player	**Degree of influence of stakeholder over AFB project** 1 = little/no influence, 2 = some influence, 3 = moderate influence, 4 = very influential, 5 = critical player
UNDP Mauritius - Implementing Entity	helping to realize directly the objectives of SDG 14	(+)	4	5
	UNDP's resources/oversight and management during project implementation	(+)		
	facilitate networking with various technical experts	(+)		
	Encouraging south-south cooperation with other islands in the Indian Ocean.	(+)		
Ministry of Ocean Economy, Marine Resources, Fishing and Shipping -	PCU Implementation support	(+)	5	5
	PCU Implementation support	(+)		
	Primary recipient of AFB funds	(+)		

Executing entity	Responsible for disbursing AFB funds to relevant agencies that are part of the Ministry	(+)		
		(+)		
UNDP GEF SGP	Project implementer (Call for Proposals to NGOs through SGP)		4	5
	Technical support and faciltiation of networking with local NGOs and community groups (Mauritius and Rodrigues)			
Mauritius Oceanography Institute (Executing Entity)	Lead agency - Para-statal	(+)	5	5
	Project implementer	(+)		
	Technical expertise in reef restoration	(+)		
	Research (e.g. genetic analysis)	(+)		
	Partnerships with AFRC	(+)		
	Collaboration with private sector and NGOs for restoration	(+)		
	Institutional, reasearch and logistic capacity	(+)		
Albion Fisheries Research Centre (Executing Entity)	Project implementer	(+)	5	5
	Existing coral restoration project	(+)		
	scale up coral nursery	(+)		
	Increase reef restoration area in project area	(+)		
	Expand reef restoration outside project area	(+)		
	Experience in coral restoration	(+)		
	Manages Blue Bay and Balaclava MPAs + 9 fishing reserves around Mauritius	(+)		
	Research	(+)		
	Institutional and logistic capacity	(+)		
	Regulate and monitor artisanal fishing	(+)		
University of Mauritius	Engaged in research (Faculty of Ocean Sciences)	(+ / -)	3	3
	Several years experience in coral restoration	(+)		
	Pool of marine biology students who can receive training/volunteer/participate in research	(+)		
	Research that can be plugged into component 3 as add-on	(+)		

	Social scientists if required for further studies of impact of coral restoration on coastal communities	(+)		
	scale up coral nursery	(+)		
	experience with private partnership	(+)		
Reef Conservation	Potential partner/implementer in community-managed nursery on Volontary Conservation Area site (through SGP CFP)	(+)	2	3
	Implemented first Volontary Marine Conservation Area (VMCA) in Mauritius (Anse-La-Raie)	(+)		
	Community engagement experience - empowerment of local boat operators	(+)		
	Housed doctoral student during her research on coral restoration/fragments	(+)		
	Research in Anse-La-Raie area (potential designated site for community-managed nursery site)	(+)		
	Coordinator of Eco-Schools programme in Mauritius (local representation of FEE)	(+)		
	Extensive experience in environmental education and awareness (availability of *Bis Lamer* - an awareness and education interactive bus, production of print education tools, outreach, open days)	(+)		
	Availability of research centre Nauticaz housed in Attitude Hotels resort in Anse-La-Raie	(+)		
	Can participate in ToT (registered with the Mauritius Qualifications Authority) - experience delivering training to local communities and boat operators	(+)		
	Willingness to participate in training activities and interest in coral restoration in VMCA	(+)		
Eco-Sud/Lagon Bleu Programme	Potential partner/implementer in community-managed nursery on Voluntary Conservation Area site (through SGP CFP)	(+)	2	3
	Conservation activities since 1999	(+)		

	Active programme surrounding Blue Bay Marine Park and area since 2010	(+)		
	Research in collaboration with UK universities on coral health in the Pointe d'Esny lagoon (next to BB Marine Park) and in the marine park itself	(+)		
	Extensive experience in environmental education and awareness (organisation of open days, production of education materials)	(+)		
	Pool of volunteers (foreign students who participate in monitoring in Blue Bay Marine Park area)	(+)		
	GEF SGP Funded project for coral restoration in Mahébourg area. Site identification ongoing. Synergy/collaboration with AFB project beneficial	(+)		
	Availability of boat			
	Marine eco-guide training course associated with regional african field guides - (Training over 6 months, first time in 2016)	?		
	Participate in ToT	(+)		
Mauritius Marine Conservation Society	25+ years experience in marine conservation	(+)	2	1
	Research on coral reef health, marine mammals, feasibility of Marine Park on West Coast (Black River Fishing Reserve already exists), Octopus Fishery closure pilot study	(+)		
	Extensive experience in environmental education and outreach, mostly in the western and southern regions	(+)		
Eli-Africa	5 years experience in coral reef restoration (GEF SGP UNDP funded grant in 2009)	(+)	2	1
	Mobilizing of volunteers and youth	(+)		

	Sharing of experience and lessons learned and participation in Training/outreach	(+)		
Eco-Mode Society	Potential partner/implementer in community-managed nursery on Volontary Conservation Area site (through SGP CFP)	(+)	3	3
	Experience in coral restoration 5+ years	(+)		
	Several restoration projects ongoing in collaboration with Sun Resorts, University of Mauritius and other partners	(+)		
	Youth and volonteer engagement	(+)		
	Research (University of Mauritius)	(+)		
AHRIM and associated hotels	Strong interest in coral reef restoration	(+)	3	4
	Some hotel members next to desginated sites	(+)		
	Important for long term success and sustainability of project	(+/-)		
	Several initiatives by individual hotels	(+)		
	Interest in increased collaboration and synergy both between hotels and with government institutions, NGOs and international funders	(+)		
	Initiatives already taken by hotels	(+/-)		
	Add-on of new nursery sites in addition to project sites as long as they can benefit from technical expertise	(+/-)		
	Some hotels may have marine biologists on staff who may wish to participate in Training/ ToT	(+)		
	CSR as source of finance for community managed nurseries	(+)		
	Not always a lot of synergy between hotels and initiatives in the past	(-)		
	Concerned about meeting clients' needs	(+/-)		
Association des Hotels de Charme	Interest in coral reef restoration	(+)	3	3
	Coastal hotels may be close to chosen sites	(+)		
	Potential important partner in terms of CSR	(+)		

	Concerned about meeting clients' needs	(+/-)		
Boat operators	Opportunities to participate in training activities	(+)	4	2
	Pool of potential certified scuba divers (limited)	(+/-)		
	Assist with maintenance of coral nursery and boat rides	(+)		
	Community engagement	(+)		
	Possible complementary livelihood	(+)		
	Stakeholders benefiting most directly from MPAs	(+)		
	Mahébourg in Blue Bay vicinity (168 registered fishermen)			
	Registered fishermen population relatively aging in both sites	(+/-)		
	Can have key role in management of community-based nursery	(+)		
	Can have role in outreach and community participation	(+)		
	Some conflict among fishermen and between fishermen groups of different regions	(-)		
	Some conflict between registered fishermen and unregistered fishers	(-)		
Fishermen (registered or otherwise) who depend on the sea for their livelihood	Group of people comprising of: unregistered fishers depending largely on fishing for their livelihoods, pole and line amateur fishers who fish to complement their food source/income, gleaners (Mahébourg: 50+ persons in this group / North to be confirmed)		2	4
	Unregistered fishermen groups are at times more numerous than registered fishermen in area - **vulnerable group,** no official recognition, not always organised	(-)		
	Potential alternative/complementary livelihood	(+)		
	Some certified scuba divers (in Mahebourg, 2 out of a sample group of 10 identified, certification unclear)	(+)		

	Because of lack of recognition and organization, some might be against/potential for conflict	(-)		
Community groups North	Participation in VMCA management	(+)	3	3
	Participation in training for marine eco-guiding	(+)		
	Participation in sensitization sessions	(+)		
	Key player in community engagement and outreach on project site	(+)		
	Added value for toursits coming to the area	(+)		
	Pool of volonteers for maintenance (non-diving)	(+)		
Community groups South (near Blue Bay/Mahébourg/Gr and Port area)	Overlaps with unregistered fishermen	(+)	3	3
	Community engagement project and lessons learned for crab mariculture and "barachois" restoration site (active participation of members)	(+)		
	Source of income/alternative livelihood	(+)		
	Beneficiaries of training	(+)		
	Pool of volonteers (non-diving)	(+)		
	Some conflict potential, reluctance from community members	(+)		
Mauritius Scuba Diving Association	Indirect beneficiaries	(+)	2	3
	Assist with populating coral nursery	(+)		
	Pool of non-scientific SCUBA divers	(+)		
	Restored dive sites attract fish	(+)		
	increase customer satisfaction	(+)		
	Increase revenues from restored reefs and replace Mauritius as international dive destination	(+)		
	Some anchor damage	(-)		
Mauritius Underwater Group	Interest with regards to dive sites	(+)	2	3
	Knowledge of dive sites needing restoration around Mauritius	(+)		
	Pool of volonteer divers among regular divers (~30)	(+)		
	Platform for outreach to members of the diving community	(+)		
Roches Noires Eco-Marine	Active in community engagement, outreach, local conservation	(+)	1	1
	Pool of volonteers	(+)		

	Not close to selected implementation sites	(-)		
National Women's Council	Can support/facilitate women's integration in project	(+)	2	1
Rodrigues				
Rodrigues Regional Assembly, Commission for Environment, Forestry, Fisheries and Marine Parks	Earmarked funding for coral restoration/coral nurseries in addition to AFB project	(+)	4	4
	Institutional support to implementation of project in rodrigues	(+)		
	Logistical support to project	(+)		
South-East Marine Protected Area (SEMPA)	MPA Staff and researchers involved in training to set up coral nurseries	(+)	4	4
	Determine transplantation site in Rodrigues	(+)		
Shoals Rodrigues	Conservation programme ongoing since 2001 (environmental education and training, establishment of marine reserves, research)	(+)	3	3
	Boat and research facilities	(+)		
	Can benefit from training/Participate in ToT	(+)		
	Engagement with other stakeholder groups and local communities	(+)		
	Limited number of staff but potential pool of volunteers	(+/-)		
Ter-Mer Rodriguez	Active around SEMPA	(+ / -)	3	3
	Research and outreach work	(+)		
	Work with fishermen	(+)		
	communication tailored to tourist	(+ / -)		
	potential grants from international hotel chains	(+)		
Community groups around SEMPA and Rivière Banane	Cooperative set up for glass-bottom boat touring and eco-guiding around MPA	(+)	3	3
	Active engagement in MPA management, framework can be used for follow-up of coral nursery	(+)		
	Experience with community outreach	(+)		
	Gender balance	(+)		

Importance and influence

Importance		
	High Importance / low influence stakeholder AHRIM/ Association des Hotels de Charme University of Mauritius Mauritius Research Council Coastal community groups (sub lists in each site section) Hotels and resorts near sites Dive centres Conservation non-governmental organizations (Lagon Bleu, Eco-Sud, Reef Conservation, Mauritius Marine Conservation Society, Shoals Rodrigues, Ter-Mer Rodriguez) Hotel boathouses Youth groups Rodrigues Council of Social Services	*High importance / high influence stakeholder* Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping Mauritius Oceanography Institute Albion Fisheries Research Centre Blue Bay Marine Park Rodrigues Regional Assembly Commission for Environment, Forestry, Fisheries and Marine Parks (Rodrigues) South East Marine Protected Area Management (Rodrigues)
	Low importance / low influence stakeholder Village councils Other environmental NGOs National Women's Council Youth Council	*Low importance / high influence stakeholder* Fishermen (registered) Independent boat operators Unregistered and *amateur* fishermen
	Influence	
	Low	*High*

5. Community engagement and development plan

Community-based approaches have been underlined as an avenue for expansion of coral rehabilitation initiatives and ecosystem based adaptation in the proposal to the Adaptation Fund Board and beyond, through local nurseries implemented in collaboration with government institutions, NGOs and active participation of local communities. A detailed community action plan and budget is provided in **Annex 1**. The main vulnerable groups identified are fishermen and unemployed community members or individuals who work in the informal sectors. The project provides an opportunity to train young fishermen in new skills such as diving which would broaden their employment opportunities, and engage them in the protection and rehabilitation of the marine resources which they depend on.

Development of sustainable partnerships and community-based approaches to coral reef restoration

Following the 3rd Regional Steering Committee Meeting held on June 21, 22nd in Seychelles, roles and responsibilities were clarified for the involvement of local community members and civil society as a whole. The Executing Entities will be responsible for the technical expertise, selection of donor corals, and set up of nurseries. They will also provide support to the NGOs and community members to transplant corals to rehabilitation sites and other requirements as needed. NGOs have an important role to play in the sustainability of the project as many are locally based, know the local stakeholders very well and have an on-going coral reef monitoring programme. This is the case of Lagon Bleu located in Blue Bay near the Marine Park and the case of Shoals in Rodrigues. Through a Call for Proposals, NGOs will be selected and will be required to: work closely with the Executing Entities to implement the community aspect of the project, communicate with and mobilize local stakeholders for the project, identify community beneficiaries of the project, receive training of trainers on coral reef rehabilitation and provide training in turn to community members, and ensure the long-term follow-up of the nursery and rehabilitation sites.

Community mobilization and participation

All local stakeholders consulted have expressed the need to allow for at least 3-6 months for in-depth community participation and mobilization. This will be done to ensure buy in of the larger community, ensure that each participant, particularly youth and amateur fishers coming from vulnerable backgrounds be carefully selected after broad based meetings involving the maximum number of people. These meetings will also help involve all fishers in the selection of nursery sites and ensure that they are not negatively impacted by the project. On the other hand, this will also ensure that the majority of fishermen support the project.

Training and revenue generation for fishers and youth of the selected areas

For community members to participate in the project, they will require training in scuba diving as well as set up of nurseries, maintenance, monitoring and . Many community members are very comfortable underwater and some use scuba gear – even without official certification. These community members are the best placed to receive training through the project, mainly in:

- Dive training: Community members will be trained in at least Advanced Open Water Diver (PADI) level or the equivalent. There are at least two dive centres located close to the Blue Bay MPA which can provide training. In addition, the Mauritius Underwater Group (MUG) provides British Sub Aquatic Club (BSAC) training on a non-commercial basis. Members of MUG have already trained up two youth of the area as Ocean Divers through “La Patte Canard”, a local association focusing on snorkel and dive training, the first level of BSAC which is considered to be equivalent to the second level of PADI. In Rodrigues, there are at least three dive centers that are equipped to provide training. In addition, Shoals Rodrigues team have dive masters on board who can support training of community members.
- Training of trainers of NGO staff on set up of nurseries. This training does not have to be limited to the NGOs operating directly next to the nursery sites; opening the training to all those interested and qualified (MSc or equivalent) will allow the replication of nurseries throughout the island and the building of capacity of local stakeholders.
- Training of community members in coral reef rehabilitation (nursery set up and maintenance, transplantation, monitoring): Once community members have the relevant diving qualifications, they would be able to participate in the set up and maintenance of nurseries. The ultimate responsibility of the installation of nurseries and the collection of donor corals lie with the Executing Entities. However it is proposed to involve community members in these activities as described above.

Research involving university students

At least 30 university students have been involved in pilot coral reef restoration projects up until now. They have participated in the setup, maintenance and monitoring of the nursery sites as well as the transplantation. In order to allow knowledge management to continue beyond the project duration and to build capacity of the Mauritian population, the involvement of University students is key.

Communication and awareness raising

From discussions with NGOs and other community members, it was revealed that collaboration between NGOs for communication campaigns on the ground have been very successful in the past. These collaborations have allowed to streamline the communication messages across the island, develop tools and materials with broad collaboration between authorities and non-governmental organizations and carry out Open Days open to the public on selected sites. Previous successful campaigns carried out by NGOs together include collaboration for communication on MPAs and mobilization for the octopus fishery closure. Other local stakeholders such as scouts and sailing clubs have an important role to play in the communication in their respective communities.

Sustainability of community based approaches and avenues for Mauritius

Community-based coral rehabilitation and restoration has taken many forms. In Mauritius, involvement of local stakeholders, community members and youth has only been undertaken through volunteer mobilization, as was also done in multiple sites around the world. An alternative to volunteer mobilization is to create employment opportunities for local community members and fishers, and developing the commercialization of corals that have been grown in nurseries for sale to hotels in their rehabilitation efforts, as well as to local

aquarium shops. This has shown to be profitable in Madagascar, among others. [18] While this was proposed as an option for Mauritius, most stakeholders disagreed that the country was ready for this. Management measures in place, whether through MPAs or other measures were deemed currently insufficient to counter the risk of illegal activity. Other employment opportunities suggested were focused on further developing eco-tourism activities in relation to coral nursery and transplantation sites.

Hotels and tourism businesses

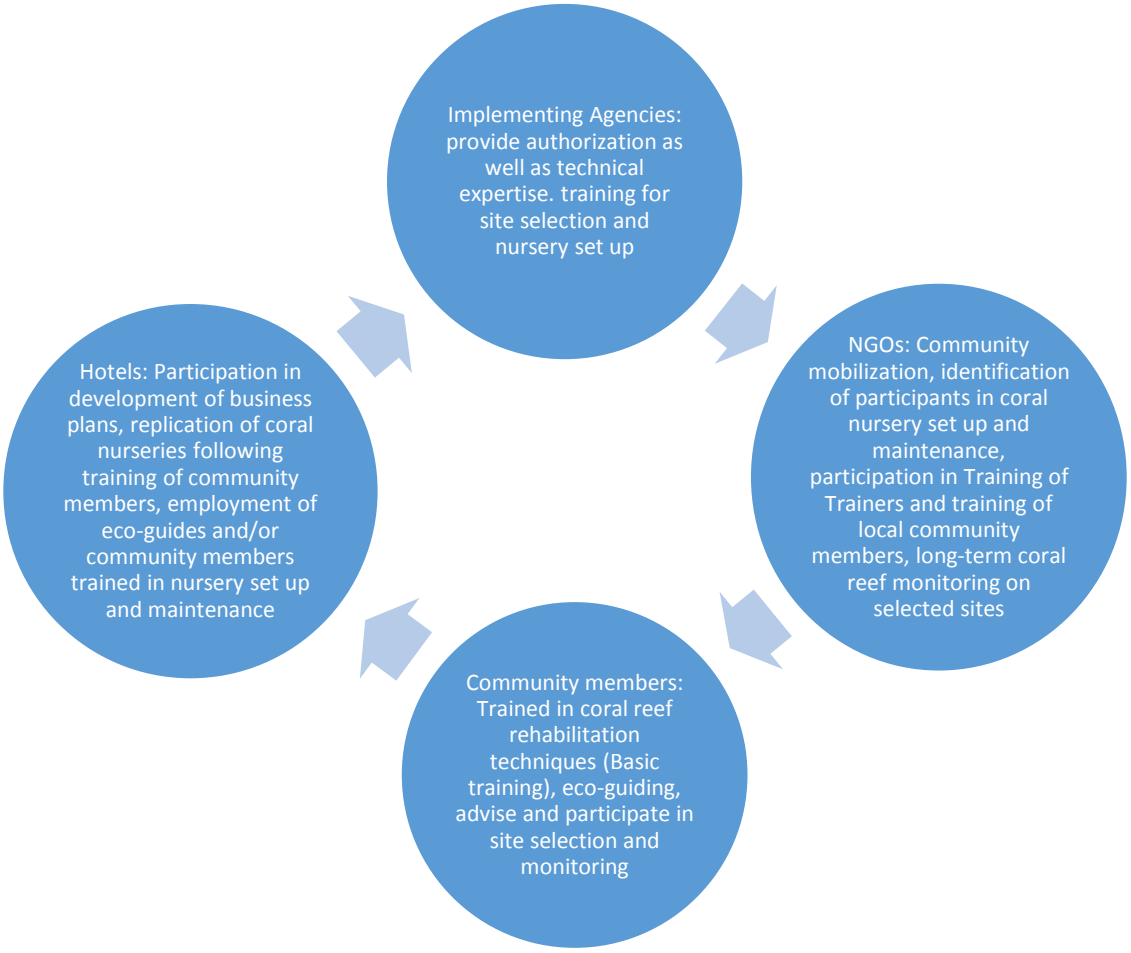
Hotels have expressed that they are very eager to support coral restoration activities. This has been evidenced through a number of initiatives, such as Wise Oceans at Four Seasons Anahita, and projects recently started by Sun Resorts as reported by the stakeholders consulted. Following consultations, a hotel contacted Albion Fisheries Research Centre in order to obtain expertise on coral nurseries and the potential for restoration at Flic-en-Flac. Up until 2016, hotels were able to use their Corporate Social Responsibility funds to support such projects, which has enabled greater collaboration between hotels and NGOs and hotels' implication in marine resource management. The national CSR framework has recently changed, such that focus is being laid on priority development areas such as housing, with a proportion of the 2% earmarked being redirected to the National CSR Foundation for this purpose. While this limits the potential direct financial support of some hotels, their interest remains high as the future of the industry relies on healthy coral reefs. Their implication in site selection, project follow-up as well as employment of vulnerable groups who have been trained through the project in coral nursery set up and maintenance or employment of eco-guides is still considered viable.

Eco-tourism

Three of the NGOs – Reef Conservation, Lagon Bleu and Shoals Rodrigues - consulted have already developed a marine guide course, with two of them certified by the Mauritius Qualifications Authority, with training occurring over a period of three to six months. Eco-guide training not only offers potential for revenue generation and value addition to the tourism products offered by hotels but also offers the opportunity for empowerment of local communities in marine resource management, conservation and climate change adaptation. An effort to recruit members of vulnerable groups, women and youth would further ensure the social sustainability of the project. The implementation of these courses carried out with local CSR funding is recommended as an added value if project budget priorities do not allow for the inclusion of such training costs. The project should nonetheless make provisions for rules and regulations to safeguard the sites from human impacts if eco-tourism is pursued as an income-generating activity.

[18] ildas Georges Boleslas Todinanahary, Thierry Lavitra , Herinjatovo Hardinat Andrifanilo, Nicolas Puccini, Philippe Grosjean, Igor Eeckhaut, *Community-based coral aquaculture in Madagascar: A profitable economic system for a simple rearing technique?* Aquaculture 467 (2017) 225–234

Roles and responsibilities for community-based approach



Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
COMPONENT 1 (MAURITIUS): Enhancement of food security and reduction of risks from natural disasters through the restoration of degraded reefs in Mauritius						
Development of a sustainable partnership and community based approach to reef restoration						**$ 130,000**
Outcome 1: Coastal communities benefit from improved livelihoods through: **• employment establishing and maintaining coral nurseries and transplantation sites;** **• improved fish catches as reef health improves;**	Fishermen and fisherwomen (registered) in and around Blue Bay Marine Park area, Southeast Marine Protected Area and Riviere Banane Marine Reserve	1.2. According to final stakeholder analysis, identify fisher groups based on selected community-based sites as well as location of coral rehabilitation efforts implemented by the Executing Agency	Basline: Approximately 60 registered fishermen identified in sites close to projected nursery and transplantation sites Indicator: Stakeholder analysis and meetings lead to successful appropriation of project by local stakeholders. Target: At least 60% of fishermen in selected communities support the project and participate in decision-making at a local level	Project Management Unit (stakeholder analysis), NGOs selected through Call for Proposals	Year 1, month 1-3	**N/A**
		1.3.Encourage fishers' participation and carry out meetings and workshops with fishermen in villages close to selected coral rehabilitation sites in BBMP and SEMPA/Rivière Banane	Baseline:N/A Indicator: Number of fishers attending meetings (disaggregated by sex and age) Target: At least 60% of fishermen in selected communities support the project and elect a representative to participate in decision-making at a local level	NGOs selected through Call for Proposals	Year 1, month 3-6	$100/ meeting x at least 3 meetings $500 per workshop x 2 workshops

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
		1.4. Engage fishermen in identification of nursery sites and transplantation sites (use of traditional knowledge alongside science), monitoring of fish catches	Baseline:N/A Indicator: Number of fishers participating in identification of nursery and transplantation sites; total number of fishers participating in fish catch monitoring (disaggregated by sex and age) Target: At least 2 fisher representatives elected to help identify sites and participate in monitoring for each site	NGOs selected through Call for Proposals, Albion Fisheries Research Centre	Year 1, month 3-6	$20/fisherman/day
	Recreational fishers and local coastal resource users	1.5. Identify vulnerable fishermen willing and able to participate in the implementation of the project	Baseline: Approximately 70 amateur fishermen identified in Mauritius during project development phase Indicator: Number of meetings with meeting/workshop objectives set and met; total number of amateur fishers and those willing to participate are confirmed (disaggregated by sex and age) Target: At least 20% of amateur fishers are reached and participate in local-level decision-making	NGOs selected through Call for Proposals	Year 1, month 3-6	N/A

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
		1.6. Carry out meetings and workshops with fishermen on selection of nursery sites	Baseline: Approximately 10% of community members who use fishing for a living in Blue Bay area identified were either interviewed or participated in consultation meetings Indicator: Total number of amateur fishers and those willing to participate are confirmed (disaggregated by sex and age) Target: At least 20% of amateur fishers are reached and participate in local-level decision-making	NGOs selected through Call for Proposals	Year 1, month 3-6	$100/ meeting x at least 3 meetings $500 per workshop x 2 workshops
	Women's groups and community groups	1.7. Engage women through women's groups identified in the stakeholder analysis, identify women to participate in (1) local follow-up of project including identification of nursery sites (2) sensitization campaigns (3) direct participation in the project	Baseline: 8 women from local communities reached during project development phase Indicator: Total number of women involved in local implementation of project, representatives for women chosen or elected by women's groups Target: Increase women's participation to at least 30% of all local decision-making frameworks in relation to the project	NGOs selected through GEF SGP Call for Proposals	Year 1, month 1-3	$100/meeting; $300/workshop

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
	Hotels and tourism business	1.8. According to final stakeholder analysis, identify and engage hotels and tourism businesses through in-kind support (technical expertise for business plans, provision of facilities for meetings, support through boat rides and/or diving equipment, for example) and/or financial support through Corporate Social Responsibility (CSR)	Basline: Hotel associations consulted during bilateral meetings as well as participation of hotels in consultation workshop Indicator: Participation of hotels solidified through Memorandum of Understanding Target: Major hotel associations sign MoU with Ministry of Ocean Economy; at least 60% of hotels located directly next to the nursery and transplantation sites are consulted and are active participants to the project	NGOs selected through Call for Proposals, Albion Fisheries Research Centre	Year 1, month 1-3	N/A
		1.9.Engage hotels to identify new sources of tourism revenues and relevant marketing strategies in relation to coral reef rehabilitation sites (i.e. eco-tours of the sites)	Basline: N/A Indicator: Realistic sources of revenue identified to elaborate business plans and inclusive of vulnerable groups; projected amount of new revenue lines and projected employment opportunities Target: Major hotel associations sign MoU; at least 60% of hotels located directly next to the nursery and transplantation sites are consulted and are active participants to the project	NGOs selected through Call for Proposals, Albion Fisheries Research Centre	Year 1, month 3-6	$1000/workshop

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
	Boat operators (including independent boat operators, hotel boat houses and dive centres)	1.10. According to final stakeholder analysis, identify boat operators based on selected community-based sites as well as location of coral rehabilitation efforts implemented by the Executing Agency	Basline: Approximately 10 boat operators consulted in villages close to projected nursery and transplantation sites Indicator: Stakeholder analysis and meetings lead to successful appropriation of project by local stakeholders. Target: At least 60% of fishermen in selected communities support the project and participate in decision-making at a local level	Project Management Unit (stakeholder analysis), NGOs selected through GEF SGP Call for Proposals	Year 1, month 1-3	$100/meeting; $300/workshop
	Local community stakeholders	1.11. Set up local management committee composed of representatives of local stakeholder groups to ensure increased dialogue and collaboration between all stakeholder groups (Executing Agency representative, community representative, women's groups' representative, fishermen's representative, village council representative, hotel representative,	Baseline: Representatives from most stakeholder groups consulted during project development phase Indicator: Number and percentage of women and men (disaggregated by age group and stakeholder group) serving in leadership positions related to the areas of intervention or in the project context; diversity of stakeholder groups represented; Target: 100% of all major stakeholder groups represented in local management committee	PMU and Executing Agencies, NGOs selected through Call for Proposals	Year 1, month 3-6	$2,000/ multi-stakeholder workshop for set up; $200/meeting x2/year

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
		NGO representative, amongst others)				
Establishment of coral farming and nursery facilities						**800,000**
Outcome 2: Coral colonies of appropriate species (resilient, maintaining genetic diversity) available at sufficient scale (quantity, time intervals etc) for transplanting onto degraded reefs	NGOs	2.1 According to final stakeholder analysis, identify NGOs to contact and launch Call for Proposals for community-based coral reef rehabilitation t	Basline: 5 NGOs / community groups engaged in conservation identified during the project development phase Indicator: NGOs develop successful proposals to act as facilitators and community coordinators in each selected site Target: At least 3 NGOs engaged for community based coral rehabilitation for each selected site	GEF SGP UNDP and/or Project Call for Proposals	Year 1	According to final project proposal - allocation to SGP ($200,000 mentioned as a figure)
	Fishermen (registered and community members who rely on fishing for their livelihood) boat operators, coastal community members	2.2. Integrate traditional knowledge from communities fishermen/women (registered and amateur) as well as boat operators for selection of donor sites and donor corals particularly for community-based nurseries and transplantation sites	Baseline: Indications of preferences for donor corals Indicator: Number of fishers and other coastal users consulted (disaggregated by sex and age and social group) Target: Views of all stakeholders are integrated inasmuch as this can be supported by science	PMU/Technical Advisor/Executing Agencies + NGOs	Year 1, month 3-6	Boat trips = average of $100/trip Stipend of $10/participant per workshop, trip or meeting

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
		2.3 Integrate views of community members, particularly fishers (both registered and amateur) on nursery site selection and their input taken into consideration particularly for community-based site but also for nurseries in MPAs	Baseline: Indications of different sites for nurseries were given briefly during project consultation phase. Indicator: Number of fishers and other coastal users consulted (disaggregated by sex and age and social group) Target: Views of all stakeholders are integrated inasmuch as this can be supported by science	PMU/Technical Advisor/Executing Agencies + NGOs	Year 1, month 3-6	Boat trips = average of $100/trip Stipend of $10/participant per workshop, trip or meeting Nursery costs: **$16,000**
		2.4 Train selected fishermen and boat operators in diving (certification PADI or BSAC) and in set up and maintenance of nurseries	Baseline: N/A Indicator: Number of fishers and other coastal users participating and generating revenue from coral reef restoration (disaggregated by sex and age) Target: At least 10 persons trained per site			
	Youth groups, University of Mauritius students, Mauritius Underwater Group volunteer divers	2.4. On selected days, involve local volonteers with adequate diving experience to participate in nursery mainteance	Baseline: Volonteers have participated in past projects in Rodrigues and Trou-aux-Biches Indicator: Number of volonteers (disaggregated by gender and age and social group) Target: At least 20 volonteers participate in maintenance in all project sites (frequency to be determined)	NGOs and University of Mauritius	End of Year 1, Year 2, Year 3, Year 4, Year 5	Boat trips = average of $100/trip Stipend of $10/participant for field days
Active restoration of degraded reefs, with maintenance and monitoring of survival						**700,000**

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
Outcome 3: Rugosity and structure of reefs restored, leading ultimately to greater protection of shore from flooding and storm damage	NGOs	3.1. NGOs participate in research support coral rehabilitation efforts whereever necessary (Reports on reef health and diversity, water quality, species diversity and key parameters for all transplantation and control sites)	Baseline: 2 NGOs currently carry out coral reef monitoring on selected nursery locations Indicator: Number of NGOs participating in monitoring; contribution of NGOs to project reports Target: At least 2 NGOs carry out long-term monitoring on community based sites	NGOs and Executing Agencies	Year 1 baseline + 2x/year during project cycle	$15,000/monitoring (all community sites)
	Fishers and other coastal users	3.2. Wherever possible, community members participating in the set up of coral nurseries are trained in monitoring methods	Baseline: N/A Indicator: Number of community members participating in monitoring (disaggregated by sex and age and social group) Target: At least 5 community members from each selected site	NGOs	Year 1 baseline + 2x/year during project cycle	
COMPONENT 3 (SEYCHELLES & MAURITIUS): Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration.						
Improved understanding and knowledge management of use of reef restoration as an adaptation measure						**150,000**
restoration are known; cost-effective approaches, constraints and challenges identified and lessons learned documented)	Coastal communities near selected sites	4.1. NGOs collaborate with Ministry to design and implement a communication campaign including local outreach events (Open Days) and related communication materials (print, social media, broadcast media) to disseminate	Baseline: N/A Indicator: Number of community members reached during events and sensitization sessions, social media viewing numbers, number of pamphlets distributed Target: At least 500 individuals reached at each site	NGOs	Year 4 and 5	**$50,000** - $10,000/site for outreach and events x3 sites, $20,000 for communication materials (short video, pamphlet, social media)

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
		information about coral reef rehabilitation, climate change and ecosystem-based adaptation				
Lessons learned regionally and globally on methods and approaches to sustainable reef restoration are disseminated						**44835.5**
Outcome 5: Improved understanding within the WIO and globally of successful approaches to reef restoration, the constraints and challenges, with lessons learned incorporated into new initiatives	Implementing agencies, NGO representatives, researchers from the region	5.1. Document and share lessons learned of community involvement and business approach in community-based coral reef rehabilitation and climate change adaptation	Baseline: Local community involvement documented only through donor reports and media Indicator: Lessons learned documented; best practices mainstreamed through conference presentations/papers and/or development of Training of Trainers for best practices in Community Based Approaches for Ecosystem Based Adaptation Target: Best practices and recommended approach available to the scientific community and practioners either through published paper, conference presentation or user manual	NGOs	Year 4 and 5	$ 10,000/assessment for each site (mid term and final) **TBC**
Training to build capacity for sustainable coral reef restoration						**200,000**
Outcome 6: Regional capacity developed for coral restoration	NGO representatives, University of Mauritius students	6.1. NGO representatives (marine biologists, research scientists) participate in Training of Trainers in coral reef restoration	Baseline: 3 NGOs have undertaken coral farming projects (2 in Mauritius and 1 in Rodrigues) Indicator: Number of marine biologists and researchers from NGOs and University of Mauritius participating in Training of Trainers (disaggregated by sex and age group)	Executing Agencies	Year 1	$10,000 travel costs Rodrigues to Mauritius for each training session unless training is feasiable in Rodrigues; $ 7500 dive training

Project component	Target groups	Actions/Strategy	Indicators and targets	Responsible Party	Timeline	Budget
			Target: At least 10 NGO representatives trained			
	Community members	6.2. Community members are selected to participate in upgrading SCUBA certification to be employed on nursery sites (5 community members per community based site)	Baseline: No certification Indicator: Number of community members certified at least Open Water divers Target: At least 15 members trained throughout the Republic of Mauritius	NGOs in collaboration with dive centers	Year 1	
		6.2. Community members participate in Basic Training	Baseline: Community members have been trained on ad-hoc basis in different projects Indicator: Number of community members (disaggregated by gender and age) trained Target: Best practices and recommended approach available to the scientific community and practioners either through published paper, conference presentation or user manual	Implementing Agencies	Year 1	

Costs	# of units	Unit value (in MUR)	Total Cost (in MUR)[3]	Total Cost (USD)
1. Human Resources				
Community Based Site Project Coordinator (Marine biologist or equivalent, Msc level, Rescue or Dive Master)	54	35,000	1,890,000	52,500
Project Assistant - Community Outreach Coordinator	54	25,000	1,350,000	37,500
Subtotal Human Resources			**3,240,000**	**90,000**
2. Administrative costs				
Overall costs including project management and administrative costs	54	15,000	810,000	22,500
Subtotal administrative costs			**810,000**	**22,500**
3. Equipment and supplies				
Nursery equipments and supplies (including maintenance and replacement)	1	576000	576,000	16,000
Diving Equipment (1 full set: regulator, octopus, BCD, tank, mask and fins, wetsuit, weights)	5	70,000	350,000	10,000
Data loggers	4	8,500	34,000	944
Quadrats (to be made)	4	500	2,000	56
Mis survey items	1	10,000	10,000	278
Subtotal Equipment and supplies			**972,000**	**27,278**
4.Community mobilization and training				
Community meetings	40	2,500	100,000	2,857
Community training with stipend (20 persons) @ Rs 1000 / participant for 10 days	10	800	8,000	229
Dive instruction - Padi Advanced (7participants)	7	30,000	210,000	6,000
Installation of Nursery with community - stipends - 40 man days x 7 participants	280	800	224,000	6,222
Installation of Nursery with community - boat rental (2 boats)	40	3,500	140,000	4,000
Maintenance of nursery 150 days per year for 4 years - community stipends for 7 participants at 800 rupees per day	600	5,600	3,360,000	96,000
Maintenance of nursery boat costs	150	3,500	525,000	15,000
Transplantation of corals with community - stipends (MUR 800/participant/day x 7 participants x 200 days)	200	5,600	1,120,000	32,000
Transplantation of corals with community - boat rental for 200 days	200	3,500	700,000	19,444
Subtotal Other			**4,042,000**	**181,752**
Total			**9,064,000**	**321,530**

Community Budget without Nursery equipemnt:	305,530

Annex 8

2017

Gender and Youth Assessment and Action Plan

IN SUPPORT OF THE PROPOSAL SUBMITTED TO THE ADAPTATION FUND BOARD: RESTORING MARINE ECOSYSTEM SERVICES BY REHABILITATING CORAL REEFS TO MEET A CHANGING CLIMATE FUTURE

Contents

Gender and Youth Assessment

I. Introduction

Following the submission and approval by the Adaptation Fund Board in October 2016 of the project *"Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future"* in Mauritius and Seychelles, a project preparation grant was approved and a Gender and Youth Assessment and Action Plan was commissioned to be annexed to the project proposal.

The Executing Entities identified in the Concept Note are:

- Seychelles Ministry of Environment, Energy and Climate Change,
- Nature Seychelles and Seychelles National Parks Authority,
- Mauritius Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Island (MOE) including the Mauritius Oceanography Institute (MOI) and the Albion Fisheries Research Centre (AFRC)

The project proposed lays out an ecosystem-based approach to adaptation, using coral reef rehabilitation and restoration as a means to adapt climate change. Mainly, it is based on the premise that coral reef rehabilitation will help increase food security by restoring fish habitats and increasing fish biomass and diversity on degraded reefs, and provide disaster risk reduction by restoring the barrier function provided by coral reefs. The community development plan developed in conjunction with this assessment and action plan aims to facilitate gender and youth mainstreaming and empowerment in the design and implementation of the project.

The following document provides a gender and youth assessment in relation to the aims of the project, identify gaps and potential avenues for more meaningful participation of women, define roles and responsibilities, establish baselines, targets and potential further sources of finance to assist with wider economic development and community development needs. In order to achieve this, a background on key issues concerning gender and youth in Mauritius is provided. A brief gender analysis for coastal resource use was developed to better inform women and youth involvement in coral reef rehabilitation. Last, a review of past studies undertaken in the proposed sites of intervention as well as interviews and focus groups provide the basis for the development of a proposed Gender and Youth Action plan.

II. Methodology

The following assessment provides an overview of major gender and youth issues in Mauritius, identified through secondary sources through a desk review. It is followed by a gender analysis relative to coastal climate change and coastal resource use, as the direct stakeholders of the project are fishers and their families, boat operators and hotel workers.

- **Desk review**
- **Key Informant Interviews and Informal Interviews**
- **Canvassing**
- **Gender Analysis**
- **Focus Groups**

Most of the information provided in this assessment results from a desk review and key informant interviews as well as small focus groups in coastal areas designated as targeted sites for coral reef restoration.

III. Gender Inequality in Mauritius

Over the past few decades, Mauritius has made great strides in closing the gender gap at a national level, but important challenges remain. The country's investment in public education and public health has allowed broad access to individuals in all strata of society. Two of the main areas to tackle for closing gender inequalities are economic and political participation. The following sections provide an overview of the status of Mauritius as a whole in terms of gender equality through human development and gender indices, as well as the sector-specific gender imbalances that exist in education, health, economic participation, political participation and gender-based violence.

Human development and gender indices

Human development and gender indices provide an indication of the relative status of Mauritius in terms of gender inequality in relation to other countries. Mauritius has experienced sustained economic growth over the past few decades, despite a slow-down in recent years reflecting what many refer to as the "middle income gap"[1]. This trend is coupled with a solid education and health care system which has translated into a Human Development Index value of 0.781 in 2015, up from 0.779 in 2014, placing it in the high human development category and positioning it at 64 out of 188 countries[2]. The HDI value of the country has been consistently increasing from the time of its measurement in 1990 from 0.620 to 0.781[3]. When the HDI value is adjusted for inequality, however, it falls 14.4% down to 0.669.

The Human Development Index disaggregated by sex shows slight contrast between male and female. The female HDI is 0.759 and the value is 0.796 for males. This results in a Gender Development Index of 0.954 in 2015.

The Life-Course Gender gap further details the challenges for gender equality across a lifespan using 14 key indicators measured during childhood and adolescence, adulthood and older age, with indicators referring to health, education, labour market and social protection. The Life-Course Gender gap revealed higher scores in indicators for childhood and adolescence, reflecting the generational gap mentioned above. The indicators are ranked in a three-tiered hierarchy. For childhood and adolescence, 4 out of 6 indicators were in the top third, one in the middle third and one in the bottom third. Within the adulthood category, the 6 indicators were split equally between the middle third and bottom third. Finally for older age, Mauritius ranked with one indicator in the top third and one in the bottom third.

The Global Gender Gap Index (GGI) aims to measure relative gaps between women and men across a large set of countries and across four key areas: economic participation and opportunity, educational attainment, health and survival and political empowerment. The equality benchmark is considered to be one with no gap between men and women. The GGI index for Mauritius is 0.652 ranking at 113 out of 144. Within the different indicators, Mauritius

[1] The Economist Intelligence Unit, *Stuck in a Middle-Income Trap,* August 18th, 2015
[2] UNDP, *Human Development Report 2016 – Mauritius.*
[3] Note: the authors of the report caution to not compare values due to changes in methodology between reports.

fared differently: it ranked at 121 with regards to economic participation and opportunity, 71 for educational attainment, and 116 for political empowerment[4].

Health

Mauritius has performed relatively well in health indicators with regards to gender. Nonetheless, women remain more vulnerable to health issues than men, with higher percentages of women dying from diabetes – the leading cause of death in Mauritius (27.3% of deaths among women versus 23% of death among men). Diseases specific to women are more numerous and comparatively result in higher death rates than diseases specific to men (breast cancer, cervical cancer, cancer of the uterus and complications of pregnancy and childbirth accounted for 5.1% of death among women while prostate cancer caused 1.5% of deaths among men)[5]. Climate change is expected to cause negative impacts on health and is likely to have a differentiated impact on women and men. For example, coastal saltwater intrusion and water supply contamination may possibly be linked to higher rates of preeclampsia, eclampsia and hypertension among women. [6] Increases in life expectancy have been also been consistent, with women having a higher life expectancy than men, although improvements over the years have been more pronounced among males.

Education

On its path towards gender equality, Mauritius has reached in large part its Millennium Development Goal 'Education for All'. However when considering the entire population, overall education attainment has been higher among males than females. Based on the 2011 population census, 92% of women in Mauritius completed their primary education versus 97.45% of men, although the gross enrollment ratio for girls has been higher than for boys in the more recent years. This higher enrollment ratio also carries on to secondary education, with 78% of girls versus 66.6% of boys, and the primary school certificate examinations results as well as the School Certificate and Higher School Certificate pass rates are also higher among girls. In Mauritius, drop-out rates are higher for boys than for girls, while the opposite is found in Rodrigues. This is attributed to a high rate of teenage pregnancies on the island[7].

The number of persons who have not gone to school at all is also unequal between women and men: 8% of the female population have never been to school versus only 3% for men. At the higher education level, 3.9% of women held a university degree versus 5.6% for men[8]. This is expected to decrease as this percentage does not reflect the current enrollment ratios.

Furthermore, a New National Curriculum Framework has been developed at primary school level which has removed gender stereotypes from teaching materials and efforts are being made to integrate more girls into disciplines that have been traditionally male dominated at the secondary level.

Economic participation

As indicated above, Mauritius particularly lags in gender equality measures when it comes to economic participation, ranking 121 out of 144 countries at a value of 0.550 according to the Global Gender Gap Index. Several gaps in indicators falling under this category can explain

[4] Ministry of Gender Equality, Child Development And Family Welfare December, Republic of Mauritius "Statistics In Mauritius A Gender Approach". 2015
[5] Ministry of Gender Equality "Statistics in Mauritius A Gender Approach"
[6] World Health Organization. *Gender, Climate Change and Health*
[7] Decentralized Cooperation Programme of the European Union, "Study on Gender Analysis in Mauritius", 2016
[8] Ministry of Gender Equality "Statistics in Mauritius A Gender Approach"

this low number. There is a significant difference in labour force participation, as reflected in the following national statistics: in 2014, only 45.5% of women 16 years and above were active in the economy against 75.2% of men in the same age group. While the wage equality gap was 0.62, the estimated earned income was much lower, with a ratio of 0.43 women to men. A larger proportion of women find themselves at the lower income ranges and the mean income is 25% lower for women as compared to men. Women employed in government services constituted only 34.3%. This income gap partly reflects the gendered division of labour: women tend to predominate lower paid jobs such as domestic work, primary level teaching, nursing, secretarial and clerical posts, and men higher paid professions and decision-making roles[9].

Political empowerment

Political participation of women in Mauritius remains low. In the Global Gender Gap Index, Mauritius ranks 116 out of 144, at a value of 0.087. The highest levels of decision-making are still dominated by men. At present there are only three female Ministers out of a total of 23. Women occupy 11.4% of parliamentary seats representing 8 seats against 88.6% for men, representing 61 seats out of a total of 69. With regards to local government, legislation introduced in 2012 has mandated quotas of thirty percent of women among candidates of political parties. This has resulted in an increase from 5% to 25% in village councils and from 12% to 35% in municipal councils between 2005 and 2012[10]. However, this new legal measure has not guaranteed a full 30% quota outcome and during the latest elections in 2014, the percentage of women in village and municipal councils has decreased. Beyond legislation, the cultural barriers to political participation still have yet to be removed as in many ways are still viewed as a very male-dominated sphere.

Gender-based violence

Although violence against women has been declining slightly over recent years, gender-based violence remains a serious issue and indicator of the work left to be done in terms of achieving gender equality. Nearly 89% of the 1,626 new cases of domestic violence reported in 2015 were women. Physical assault accounted for 24% of cases of domestic violence, verbal assault constituted 12% of cases, threatening assault and harassment both represented 12% of all cases. Unfortunately, studies show that case of gender-based violence are largely unreported due to cultural factors, overarching patriarchal values and fear of stigma and reprisal.

A survey carried out by Gender Links on gender-based violence revealed that gender-based violence is 15 times higher than reported to the Family Support Bureau, rape 11 times higher and sexual violence 61 times higher than reported to the police. Violence and discrimination against LGQTI has also remained an important issue, although largely unreported due to the associated fear of stigma, family rejection and reprisals. Most cases are therefore reported to NGOs.

A number of support services and facilities exist to address this issue: the Family Support Bureau which also provides counselling; access to psychological services; assistance in application of a Protection Order for victims of domestic violence; follow-up of cases. Adult perpetrators of domestic violence are also given counselling, and assistance to victims of

[9] Ibid.
[10] Jasmina Bihel, Khatimah Fathoni, *Women in Mauritian Politics – Consequences of Women's Increased Representation,* examination paper, Bachelor of Public Administration, p.4

domestic violence is provided in the form of temporary accommodation in shelters. Referral to other institutions is provided when required. These services remain to be reinforced and cultural barriers broken down to ensure a decrease in the number of unreported cases as well as the elimination of discriminatory practices against LGBTQI.

Poverty

The incidence of poverty is higher among people living in female headed households. The incidence of poverty among women increases their exposure to gender-based violence, incest, rape, child prostitution, child trafficking, early pregnancy and they suffer from economic, psychological, emotional, physical and health issues. Female headed households represent 31% of the poor and 15% of the non-poor. Female-headed households living in poverty have increased from 13.2% in 2007 to 18.2% in 2012, while the incidence of poverty affected 8.1% of male-headed households in 2012, against 7.1% in 2007[11]. Between 2007 and 2012, the absolute poverty level feel from 8.5% to 6.9%, however the relative poverty grew from 9.5 to 9.8% during the same time frame. According to the World Bank, the reduction of absolute poverty might have been twice as important had the growth been better shared and inequality had not worsened. Some measures are currently being put in place by the government, such as the negative tax income in favour of those earning less than MUR 10,000 per month.

IV. Legal and Institutional Frameworks

International legal frameworks: Mauritius has ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW); the 1997 SADC Declaration on Gender; the 1998 Addendum on the Prevention and Eradication of Violence against Women and Children; is signatory to the African Union Declaration on Gender Equality in 2004; the Commonwealth Plan of Action on Gender Equality 2005-2015 and to the Protocol on the Rights of Women of the African Charter on Human and People's Rights in 2005. [12]

National legal frameworks: There are a number of laws supporting the path towards gender equality in Mauritius. These legal and policy frameworks include the 2008 Equal Opportunities Act which proscribes direct or indirect discrimination in areas such as employment, recruitment, distribution of services and access to education. Both the Employment Rights Act 2008 and the Equal Opportunities act provide provisions against sexual harassment. A National Gender Policy Framework tackles discriminatory policies in a cross-sectoral approach.[13] A Parliamentary Gender Caucus was set up in late 2016 to ensure that "gender equality issues are addressed, mainstreamed into polices, legislation and parliamentary processes"[14].

Institutions: The Ministry of Gender Equality, Child Development and Family Welfare coordinates all major policies and programmes of the government relating to gender equality

[11] Sulla, Victor; Munoz Moreno, Rafael; Da Maia, Carlos Chadreque Penicela; Klapper, Leora; Van Oudheusden, Peter; Guven, Melis U.; Nikitin, Denis; Polodoo, Virendra; Randriankolona, Patrick Leon; Mazza, Jacopo; Heleniak, Timothy E.. 2015. *Mauritius - Inclusiveness of growth and shared prosperity*. Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/331711468190164152/Mauritius-Inclusiveness-of-growth-and-shared-prosperity

[12] Government of Mauritius, *The National Gender Policy Framework*

[13] OECD. Social institutions and gender index. Retrieved from http://www.genderindex.org/country/mauritius

[14] Set up of parliamentary caucus reaches final stage. Retrieved from http://www.govmu.org/English/News/Pages/Setting-up-of-Parliamentary-Gender-Caucus-reaches-final-stages.aspx

and gender mainstreaming. The National Women's Council plays an important role to support women's organization and facilitate communication between associations and the Ministry.

V. Youth

UNESCO defines youth as young people aged between 15 and 24. However, in Mauritius, following ratification of the African Youth Charter, the country defines youth as persons between the ages of 14 and 35 and intends to change the legislation towards this purpose. The total number of youth in this age range represent 33% of the population, with 33% female and 34% male. The Global Youth Index ranks Mauritius at 69 worldwide[15]. A National Youth Policy was renewed in 2016 with main policy areas being informal education, employment and employability, entrepreneurship, wellness and attitudes.

Education

There is a high literacy rate amongst youth, thanks to the free education system provided by the Government. In 2014, literacy rates among youth were as follows: 98.58% of female youth and 96.79% of males were literate[16]. A review of the national curriculum and introduction of the Nine Year Schooling Plan is expected to provide a more holistic approach to education and go beyond traditional subjects to ensure the personal development and growth of students. However, the National Youth Policy nonetheless highlights the need for lifelong learning opportunities and appropriate policies to cater for this heterogeneous group[17].

Economic activity and opportunity for youth

Unemployment among youth is high, and a mismatch in skills, training and labour demand has been noted throughout reports and media headlines. The World Bank reports that young people between the ages of 15 and 24 experience substantially worse labour-market outcomes than the rest of the population. Furthermore, younger workers are more vulnerable to labour market fluctuations, and experience a more "volatile pattern of employment". The unemployment rate among youth aged 16-24 rose from 23.1% in 2013 to 25.3% in 2014. Young women's unemployment rate increased from 31.1% to 33.3% while unemployment among men of the same age group increased from 17.7% to 19.7%. Unemployment was reported to increasingly affect youth having completed their secondary education at a rate of 27.9%, and 27.7% for youth with tertiary education[18]. Several initiatives have been put in place to address youth unemployment, namely:

- A Skills Working Group, a joint public-private initiative to reduce skills mismatch to labour demand
- The Youth Employment Programme (YEP) which allows youth to be placed in private sector firms for up to one year and renewable in another company for a second year if the recipient was not able to secure a more permanent position. This is carried out with partial subsidies for the government to cover training and salary.
- The Dual Training Programme, another joint public-private initiative to provide a more direct match between labour demand and supply, combining job training and institution-based learning.

[15] Commonwealth Secretariat. *Global Youth Index 2016.*
[16] Commonwealth of Learning. *Mauritius Gender Profile,* 2015.
[17] Ministry of Youth and Sports "National Youth Policy 2016"
[18] Unemployment among youth. Retrieved from http://leboncoin.nu/2015/03/unemployment-among-youth-pinpointed-by-statistics-mauritius/

Vulnerable youth

Despite the important budget allocated from the Government towards education and many initiatives taken to retain children and youth in school, many youth have found themselves out of the school system after primary school, after repeated failures to pass the Certificate of Primary Education which has now been phased out. Low pass rates of the CPE have disproportionately affected vulnerable groups and youth of from disadvantaged socio-economic background. This has been an important factor in driving youth to the streets, where they become even more vulnerable to social ills, abuse and enter a cycle of extreme poverty. It is estimated that there are over 6,000 street-connected youth in Mauritius. Among these youth, a proportion of them live along the coast and resort to fishing activities for their subsistence and survival (12%)[19]. Street connected children and youth are more likely to be in a situation of conflict with the law. The juvenile delinquency rate in Mauritius was on the rise between 2014 and 2015, rising from 5.8 to 6.1 per 1,000 population.

VI. Vulnerable Groups, Gender, Youth and Climate Change

Climate change does not affect everyone the same way. Geographic situation and economic and social vulnerability make these populations even more vulnerable to climate change impacts. While the discrepancies in impact on women and men found in other Sub-Saharan African countries may not be applied to Mauritius, the following table developed by Gender Links provides an overview of the key areas of concern which may be considered by local authorities here.

Table 1 Gender Dimensions of Climate Change.

Area of Concern	Gender Implications
Food Security	Rising temperatures and challenges in rainfall patterns have direct effect on crop yields. Lower crop yields reduces women's potential income, and the availability of food for household consumption resulting in under-nutrition.
Water	The strengthening El Niño phenomenon is ravaging the region. Provision of water is usually the woman's job, and with less water available for domestic and farm work, it translates to more work for women who have to travel for long distances
Division of Labour	The disadvantaged position of women means greater difficulty in coping with disasters, environmental change and climate variability. Gendered divisions of labour often result in more women represented in agricultural and informal sectors, which are more vulnerable to environmental variability and climate change.
School dropout	Climate change have forced young girls to drop out of school and get involved in child labour, as they seek to make ends meet for their vulnerable families.

[19] MFPWA and Safire, "Study on street children", 2012

Land	Women may suffer disproportionately as policy and programmatic responses to climate change exacerbate their tenure insecurity.
Transport	Women and men contribute differently to climate change. Men are more likely to drive cars, whereas women to a greater degree use public transport public transport.
Health	Women and men suffer different negative health consequences following extreme events like floods, drought and heatwaves. While disasters create hardships for everyone, natural disasters on average kill more women than men, or kill women at a younger age than men. These differences persist in proportion to the severity of disasters, and also depend on the relative socioeconomic status of women in the affected country. This effect is strongest, for example, in countries where women have very low social, economic and political status.
Stress	Stress levels and related diseases may increase for both women and men. Because society expects men to provide for the family, they experience and express stress in different, often more devastating ways than women.

Source: SADC Gender Protocol 2016 Barometer

VII. Coastal Communities, Gender and Climate Change

Coastal communities are even more vulnerable to the effect of climate change, and the gender differentiated impacts of climate change must be considered in this context. Coastal villages depend on the use of marine resources for their livelihoods and survival, and the coral reefs form the basis of the ecosystem services on which they rely. Tourism and associated businesses and operations as well as artisanal fishing are the key sectors deriving economic benefits from coral reefs and their associated ecosystems.

Hotels occupy 41.9 km of the 322 km coastline of Mauritius[20]. Tourism is considered one of the pillars of the Mauritius economy, employing 45,500 persons representing 8.2% of total employment in 2016. This figure is augmented to 24.3% of total employment when considering jobs indirectly supported by the industry. The direct contribution of travel and tourism to GDP for the same year was estimated at MUR36.0bn (USD1.0bn) representing 8.4% of total GDP[21].

Artisanal fishing has been a steadfast of coastal villages' culture and socio-economic landscape, providing income and promoting social cohesion, particularly in Rodrigues. Artisanal fishers numbering approximately 3,700 in Mauritius and Rodrigues and their families constitute among the most vulnerable groups of the Republic[22]. The deterioration of the lagoon resources due to land-based sources of pollution and coastal development with a heavy emphasis on tourism has rendered the communities which depend on these resources more vulnerable to the impacts of climate change.

[20] Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping
[21] World Travel and Tourism Council "Travel and Tourism Impact 2015 Mauritius", retrieved from https://www.wttc.org/-/media/files/reports/economic%20impact%20research/countries%202015/mauritius2015.pdf
[22] Smartfish Programme for the Implementation of a Regional Strategy for the Eastern And Southern Africa and Indian Ocean Region "Revitalization of Fisheries Research In Mauritius", 2011.

Activity profile in coastal resource use in Mauritius

Traditionally, women and men in coastal villages have relied on fishing as an important economic activity. Coastal fisheries include lagoon and outer reef areas and are the main source of fresh fish supply. It is estimated that there are currently 3,700 fishermen registered with the Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping, using around 1,500 boats and with an annual production of approximately 900 tons. The types of gears used include pole and lines, basket traps, large nets, gill nets and harpoons. The vast majority of registered fisher folks in Mauritius are men, although there are some coastal villages that include registered fisherwomen.

Although most are not at sea on fisher pirogues, women have traditionally been active users of coastal resources through gleaning, including crabs and bivalves which provides complimentary source of food for the household. This activity has been gradually decreasing as resources have been dwindling and economic and social structures as well as cultural habits have changed, but this type of activity remains alive in some areas of the country, particularly in more remote coastal communities with direct access to the sea, such as villages found in the Southeast coast of the island.

Due to environmental degradation and diminishing fish stocks, the policy of the Government of Mauritius in recent decades has been to limit the allocation of registration cards for fishermen. Structural changes in the economy has also meant that demand for lower skilled jobs including manufacturing have been diminishing. Informal and key informant interviews revealed that harpoon fishing underwater being outlawed, many of these fishers go out at night. This broad category includes individuals and groups who may be fairly well organized and influential and turn their activity into a lucrative albeit illegal business activity. On the other hand, there are many young people who fish to survive without any other alternative revenue and/or wish to carry on fishing as their livelihood. The latter are very vulnerable due to their precarious and oftentimes illegal situation, which does not allow them to receive the same kind of benefits as fishermen who are registered. At the same time, this type of activity is the one of the most likely to affect the coral reefs and their associated ecosystems on which they depend on to survive.

With regards to the tourism industry, there is limited information on the types of work performed by males and females. Concerning specifically employment in hotels and restaurants, the data reveals that 6.87% of all males were employed in large establishments in 2009 while the same jobs constituted 5.98% of total female employment the same year[23]. Statistics Mauritius shows that the Accommodation and Food Service sector employed 26,300 males and 14,900 females in 2015[24].

In the proposed sites of intervention, namely, the Blue Bay Marine Park (BBMP) area including Mahébourg, South East Marine Protected Area and Rivière Banane Marine Reserve in Rodrigues, the activity profile varies from site to site, and there is a degree of variation from one household to the next. For the Blue Bay Marine Park area, special emphasis was laid on Cité La Chaux as the community hosts many fishers and boat operators, and the neighbourhood has been considered as one of the pockets of poverty listed by the National Empowerment Foundation. In contrast, most of the houses located directly next to Blue Bay

[23] Baboo M Nowbutsing and Vinaye Ancharaz, “Trade, Employment and Gender: Case Study of Mauritius”
[24] Statistics Mauritius

Marine Park and along Pointe d'Esny beach are either rental bungalows or secondary houses. An important number of skippers working in BBMP live in this neighbourhood. Based on key informant interviews and focus groups as well as a household survey conducted at Cité La Chaux by The Barachois Project - EPCO, it was revealed that women in the mainland Mauritius site are often likely to be involved in informal work to either provide for their families or complement the household income.

Women also provide care for the children and take care of household chores. The women interviewed in Mauritius revealed that most lagoon based activities are largely male dominated, although they expressed an interest in new opportunities arising from the project. In Mahébourg, more specifically Cité La Chaux, the majority of women consider themselves to be housewives or home makers. Domestic work and cleaning services constituted an important proportion of activities performed by women in the locality, and there were no professional occupations.

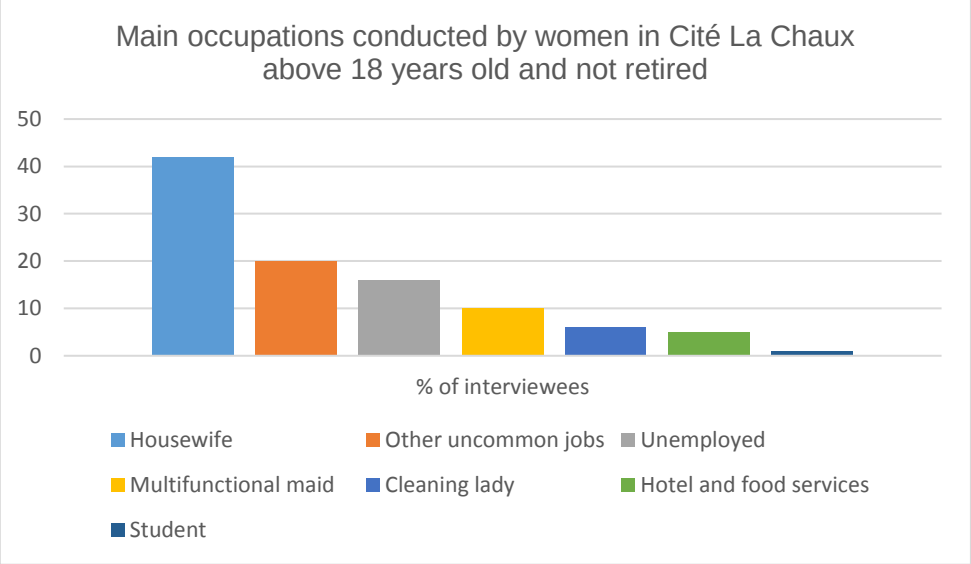


Table 2 Main occupations conducted by women in Cité La Chaux, Mahébourg (18 years+). Source: Le Barachois Project, EPCO, Household Survey, 2017

In Cité La Chaux, the economic activities of youth are also to be noted. Up to 15% of youth between the ages of 18 and 35 were unemployed. After "housewife" comprising 15% of respondents, construction (8%), fishing (7%) and hotel and food services (7%) were the most common occupations among youth.

Women in Rodrigues are heavily involved in fishing due to low depth of the lagoon. Many women in the SEMPA region are involved in octopus fishing. Following the establishment of SEMPA, an alternative livelihoods assessment was developed and several land-based activities were developed in order to diminish both their impact on the lagoon and their over reliance on fishing as a source of income. These activities are mainly agriculture related or agro-processing.

Access and control profile

Women living in socioeconomically deprived areas are more likely to be involved in the informal sector. Gender Links found that women lacked information to access finance compared to their male counterparts, and use their own source of income to raise capital for

their business. Barriers to registered formal businesses include the turnaround time to register, women's needs for social protection such as maternity benefits, childcare and prevention of abuse and non-enforcement of laws and policies regarding integration of women in the private sector[25].

Several focus group discussions were conducted in the villages of Cap Malheureux and Mahébourg. In Cap Malheureux, women were inclined to redirect any project discussion towards fishermen and boat operators who would in their opinion be more apt to participate in the project development. Due to the division of labour with regards to use of coastal resources, men benefit from and can also be impacted on more directly from any intervention in the lagoon and outer reef. However, women were very keen to engage in sensitization activities, and participate in any local management framework for the coral nurseries. A resilience workshop report undertaken at Cité La Chaux provides some indication of the access and control profile of this community:

"All community members, including women, have equal, fair and equitable access to opportunities and resources. Some women took the choice to be housewife and some are independent and educated as men"[26]

To the extent that men use their income to provide for their families, both men and women from these coastal-dependent communities are likely to benefit from the positive outcomes of the project with regards to reef health, resilience and adaptation to climate change.

Decision-making

At the project level and on selected sites, decision making varies from household to household. While women participating in the focus groups were eager to be a part of project development and participate in the local-level management and follow-up of the project, key informants also revealed that for other social projects, permission from or consultation with husbands or partners were required to involve women in various activities, such as literacy courses, life skills courses and swimming lessons. In Cité La Chaux, however, women's knowledge, skills and experience were recognized and respected at all levels, and their participation in the management of their household was deemed significant[27].

Women and vulnerable groups in the selected sites identified a lack of support from formal institutions and a lack of funding to develop projects that improved the wellbeing of community members and helped support better environmental management practices.

Capacity needs, skills and knowledge

Any previous gender gap existing with regards to access to education has been gradually closed, such that level of education is now on a comparable level for both women and men, particularly for younger generations. Women's and men's knowledge, capacity and skills were valued very differently when it came to use of the lagoon and potential participation in the project. Women indicated that fishermen and boat operators were best placed to participate actively in the project implementation, while women were thought to be skilled as community organizers and for awareness raising within the larger community. Both men and women

[25] Decentralized Cooperation Programme of the European Union, "Study on Gender Analysis in Mauritius", 2016
[26] Le Barachois – EPCO and GEF Satayoma Project "Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes: Assessment Workshop Reporting Form" 2017.
[27] Ibid.

shared similar views on roles of each group and were keen to work together towards improved management of their coastal resources and gain new skills in climate change adaptation. Both groups reported beach erosion in their locality and degradation of their environment. They reported a general lack of awareness about environmental issues within their village and neighborhoods and lack of institutional support for locally-led environmental projects.

Women and men interviewed in Mahébourg had different levels of education, without clear advantage of one group over the other. They were not all fully literate, but could sign their names and use “functional” literacy skills. Of the group interviewed, there were three amateur fishermen and three women who participated in the informal economy and on a conservation project in their locality. The amateur fishermen indicated that there were a group of 50 fishers in the region that were not part of the official lists of fishermen, with groups of 7 to 10 individuals going out in boats at night to fish.

Action Plan

The following recommended actions and strategies are based on a review of documentation on women and youth in Mauritius, focus groups as well as personal knowledge of the local stakeholder groups. The action plan in table format for the gender and youth action plan has been integrated to the Community Development Plan to mainstream all gender and youth considerations in the main project proposal.

1. **Establish a gender and youth sensitive monitoring and evaluation framework at the Project Management and Regional Steering Committee levels**

A gender sensitive approach to climate change adaptation in ecosystem-based adaptation requires gender mainstreaming at the Steering Committee and Project Management levels in order to ensure that all aspects of the project consider the inclusion of women and youth concerns in decision making and monitoring of the project. Without adding further budgeting requirements, it is proposed that gender and youth considerations remain a recurring point in the agenda of the Regional Steering Committee, and towards this purpose a focal point within the project management team can be designated to ensure all relevant data disaggregated by sex and age is collected for monitoring, evaluation and reporting in all project components and levels. The UNDP gender mainstreaming strategy requires that all its managers cultivate an inclusive work culture, and the at least 10 per cent of the learning budgets of country offices be earmarked for gender-related learning activities. It is therefore proposed that UNDP country office allow the Project Management Unit to benefit from its gender-learning activities.

1. **Identify and recruit women, men and youth in community mobilization efforts**

Women consulted at the community level in the project development phase have expressed a strong interest in participating in community mobilizing efforts. In Mahébourg, the role of women in household decisions and in their neighborhood can help gather support among their peers for the project and help identify relevant community members to participate in the training for set up of nurseries, maintenance and monitoring as well as transplantation of corals on rehabilitation sites. Other key community members are village council presidents, organizers of local events such as pirogue regattas, fishermen’s associations representatives and skippers or boat operators’ representatives.

2. **Engage women through women's groups, NGOs and CBOs identified in the stakeholder analysis, identify individual women and youth representatives to participate in local decision-making platforms**

CBOs and other local community groups were identified in the preliminary stakeholder analysis elaborated in the Community Development Plan. These include women's groups as well as individual women who are active in their respective communities (Mahébourg and SEMPA/Rivière Banane) and have an interest in taking part in the project. Engaging women in decision making processes at a local level such as designation of nursery sites and follow up of project implementation will help support gender balance and gender sensitive outcomes and ensures greater stewardship by the community as a whole – rather than only the direct stakeholders involved.

3. **Identify and recruit women, men and youth for direct participation in the designation of nursery and rehabilitation sites**

Fishermen, fisherwomen, youth and boat operators are daily users of the sea and know their environment well. Building on participatory approaches, fishers groups and boat operators can provide their inputs as to the best areas for the location of nursery sites. Their participation through consensus building and balancing between the scientific approaches and their local knowledge as well as their needs and economic imperatives will also help built greater cooperation between them and the government authorities and ensure that nursery sites are respected among the wider local community.

4. **Identify and recruit women, men and youth for training for set up and maintenance of coral reef nurseries**

Community members who are from fisher families are best placed to participate in the training sessions that will be delivered by MOI and AFRC. A strong participatory process during the activity 3 can help stakeholders elect designated community members who will receive training, and NGOs have a key role in facilitating this process and ensuring that the selected or elected community members already have strong underwater skills. Most of the community members identified for this work are young fishermen, however there is a small proportion of women who are part of the fishermen's groups who go out to fish at night. Participation of these individuals in the project will help diminish the community's over-reliance on fishing and reduce their impacts on the reef, while allowing them to gain skills that will contribute to the sustainability of their livelihoods and increase their employability.

5. **Empower youth through participation in nursery site designation, maintenance and monitoring, research and awareness-raising**

Undergraduate university students have already actively been engaged in the set-up, maintenance and monitoring of coral nursery and rehabilitation trial sites in Mauritius, most notably in Trou-aux-Biches (North) and Pointe-aux-Feuilles (South-East). While not diverting from the primary rehabilitation and restoration objectives of the project, the involvement of university students in research can significantly support the knowledge management aspect of the project while building capacity at a national level for coral reef rehabilitation and ecosystem service restoration. Beyond research and participation of undergraduate students, local youth groups such as scouts and sailing clubs have shown an interest to be involved in awareness raising activities and campaigns.

Project Component / Objective	Actions / Strategy	Performance / Target Indicators	Responsible entity
Overall project planning and implementation			
Engage women, youth and other vulnerable groups in project planning and implementation	• Ensure women and youth are included consultations prior to and during project implementation to ensure that they receive sufficient information about the project and create opportunities for them to voice their views on the project • As needed, provide training on gender equality to agencies engaged with the project to improve their understanding of gender concerns and increase their capacity to implement the Project's gender and youth action plan • Ensure appropriate social inclusion in decision-making and use an adaptive management approach to ensure proper stakeholder inclusion throughout the duration of the project • Equal work opportunities (and equal pay) will be provided to men and women under the project	• At least 40% women and 20% youth represented in consultation forums • Number of women's groups, youth groups and other vulnerable groups consulted during project implementation • Number of gender-learning activities provided at the onset and during project implementation • Number of women and men disaggregated by age involved in regional, national and local decision-making and project activities • Gender & age disaggregated attendance lists for all project activities	Project Management Unit, UNDP Country Office, Regional Steering Committee

AFB Project Formulation Grant
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

(July 2017)

COMMUNITY DEVELOPMENT PLAN (SEYCHELLES)

Table of Contents

1.0 INTRODUCTION

Following a call for proposals of the Adaptation Fund Board (AFB) in May 2015, the UNDP Country Office for Mauritius and Seychelles with national stakeholders have developed a concept note for a regional project which endeavours to "restore marine ecosystem services by rehabilitating coral reefs to meet a changing climate future". This concept note was approved by the AFB in October 2016 and is now being develop into a full project proposal.

The main objective of the proposed Coral Restoration Project is to upscale and mainstream the rehabilitation of coral reefs degraded by coral bleaching in order to restore essential ecosystem services in the face of climate change threats and to generate knowledge about the most effective solutions for dissemination to SIDS and countries within the wider region. The proposed project will be implemented jointly by Seychelles and Mauritius. It will have three components (excluding project management), namely:

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 and
Component 3) Knowledge management and sharing, training and sensitization to build regional capacity for sustainable reef restoration Institutional Arrangement

In Seychelles, the project will be implemented by the Ministry of Environment, Energy and Climate Change (MEECC) in collaboration with the following key national implementing entities:

EXECUTING INSTITUTIONS

- Nature Seychelles (NSey)
- Seychelles National Parks Authority (SNPA)

COMMUNITY ENGAGEMENT SPECIALIST

- Marine Conservation Society Seychelles (MCSS)

Coral restoration sites have been identified at the following locations, namely the are Cousin Island Special Reserve (main site), Curieuse Island Marine National Park (pilot site) and the reef of Anse Forbans/Anse Marie Louise in the South of Mahe (pilot site). Detailed descriptions of each location are provided in the AFB proposal.

This report presents the Community Development Plan (a.k.a Stakeholder Engagement Plan) for the AFB Coral Reef Restoration Project to be implemented in Seychelles. It considers the recommendations from the Gender and Youth Assessment for Seychelles, which stipulates the inclusion of sex and age-specific indicators in the Project's Logic Framework, the targeting of women-headed vulnerable households as beneficiaries, and the need for education and information activities, preferably with participation of NGOs and civil society groups, to ensure

that potential participants and beneficiaries become aware of the AFB Coral Reef Restoration Project.

2.0 STAKEHOLDER ANALYSIS

The stakeholder analysis is based on a literature review, feedback from workshops and one-on-one meetings as well as responses to a questionnaire that was circulated to stakeholders in May 2017. The aim is to identifying key stakeholders in the AFB Coral Reef Restoration Project and asses their interests in the project. This analysis provided the foundation for developing the Project's Community Development Plan and will facilitate in the prioritization of engagement activities with different stakeholder groups and individuals.

2.1 STAKEHOLDER IDENTIFICATION

The following organisations (and projects) were identified as key stakeholders in the AFB Coral Reef Restoration Project. Their interests in this project is elaborated in Annex 1. An additional list of NGOs, Civil Society Organisation (CSOs) and other organisations registered with the Civil Engagement Platform Seychelles is presented in Annex 2.

- Ministry of Environment, Energy and Climate Change (MEECC) & the Programme Coordination Unit?
- Nature Seychelles
- Seychelles National Parks Authority (SNPA)
- Marine Conservation Society Seychelles (MCSS)
- UNDP - Seychelles
- Department of Blue Economy
- Seychelles Fishing Authority (SFA)
- other environmental NGOs (Green Island Foundation – GIF, Seychelles Island Foundation – SIF, Island Conservation Society -ICS, Anba Lao)
- Seychelles Maritime Academy (SMA) previously Maritime Training Centre
- Wise Oceans
- Black Pearl Seychelles
- Artisanal Fishermen
- University of Seychelles (UniSey) / Blue Economy Research Institute (BERI)
- Coastal Community Group (e.g. Anse Forbans)
- Dive Centres (Mahe & Praslin)
- Tour operators and boat operators (Mahe & Praslin)
- Seychelles Climate Change Adaption Trust (SEYCCAT)
- The Nature Conservancy (TNC)
- Save our Seas Foundation (SOSF)
- Hotels/Resort near restoration area
- Global Vision International (GVI)

- Environmental Youth Groups (Blue Economy Champions, Wildlife Clubs of Seychelles, SYAH, Eco-academia, Eco-school etc.)
- Seychelles Prison (non-violent criminals)
- National Institute of Science Technology and Innovation (NISTI)
- Small Grants Programme (SGP)
- International tourist
- other marine related projects (UNEP Ecosystem-based Adaptation project, GOS-UNDP-GEF outer island project, GOS-UNDP-GEF protected areas finance project, GOS-UNDP-GEF Ecosystem-based Adaptation project etc.)
- Civil society organisations, including women's groups.

Please note that the list is in no order nor is it exhaustive. The focus has been primarily on direct beneficiaries or those involved in marine conservation and community engagement activities that could be included in the project implementation or benefit from capacity development to expand the scope of the restoration effort beyond the project area and lifespan.

2.2 STAKEHOLDER PRIORITIZATION

As can be seen from the table in annex 1, the group of stakeholders and their interests are quite diverse. It is therefore, not practical nor warranted that the same level of engagement be applied to each stakeholder group throughout the AFB Coral Reef Restoration Project. Prioritization between stakeholders, especially in such a complex project with multiple phases and impacts, is necessary. This does not mean that certain stakeholders are excluded or discriminated against, but rather their involvement (or lack thereof) is objectively based on the identified rights, interests, and influence of each stakeholder. Prioritization facilitates identifying appropriate forms of engagement for different stakeholder groups. Below is a brief explanation of the 4 prioritisation categories, with table 1 showing how each of the stakeholders identified above impact the successful implementation of the AFB Coral Reef Restoration Project.

Group 1 stakeholders are very relevant to the success of the activity but may have little influence on the process. For example, the success of an AFB Coral Reef Restoration Project will depend on how well women and minorities are able to participate in the activities, but these groups may not have much influence on the design and implementation of the project. They may require special emphasis to ensure that their interests are protected and that their voices are heard.

Group 2 stakeholders are central to the planning process as they are both relevant and influential. These should be key stakeholders for partnership building. For example, Nature Seychelles, SNPA and MCSS have been identified as the project's implementing agencies and will work in collaboration with the MEECC and UNDP - without their support the AFB Coral Reef Restoration Project will not be possible.

Group 3 stakeholders are not the central stakeholders and have little influence on its success or failure. They are unlikely to play a major role in the overall process. Other environmental

NGO's, for example, will not be directly impacted by the AFB Coral Reef Restoration Project and have little influence on its success, but could benefit from capacity development to extend the scope of restoration beyond the project area and lifespan.

Group 4 stakeholders are not very relevant to the activity, but may exercise significant influence. For example, SEYCCAT and TNC, while not a relevant stakeholder for the implementation of the AFB project, could have major influence in securing additional funds for the continuation and expansion of restoration activity beyond the project area and lifespan. Even if they are not involved in the planning process, there may need to be a strategy for communicating with these stakeholders and gaining their support.

Table 1. Stakeholder importance and influence matrix for the AFB Coral Reef Restoration Project

Relevance (Low ——>high)		
	Group 1: *High Importance/Low Influence Stakeholders* • Seychelles Maritime Academy (SMA) • Wise Oceans • Coastal community groups • Environmental Youth Groups (Wildlife Clubs of Seychelles, Seychelles Youth Aims Hub, Eco-School, Blue Economy champions etc.) • Black Pearl Farm, Praslin • Hotels & Resorts near site • Civil Society organisations, including women's groups	***Group 2:*** *High Importance/High Influence Stakeholders* • Ministry of Environment, Energy and Climate Change (MEECC) (& the Programme Coordination Unit?) • Nature Seychelles • Seychelles Marine Parks Authority (SNPA) • Marine Conservation Society Seychelles (MCSS) • Department of Blue Economy • United Nations Development Programme (UNDP)
	Group 3: *Low Importance/Low Influence Stakeholders* • Global Vision International (GVI) • Seychelles Prison • other environmental NGOs (Green Island Foundation, Seychelles Island Foundation, Island Conservation Society, Save our Seas Foundation, Anba Lao etc.) • other marine related project (UNEP Ecosystem-based Adaptation project, GOS-UNDP-GEF outer island project, GOS-UNDP-GEF protected areas finance project, GOS-UNDP-GEF Ecosystem-based Adaptation project etc.) • International tourists	***Group 4:*** *Low Importance/High Influence Stakeholders* • Seychelles Fishing Authority (SFA) • Artisanal fishermen • Dive centres • Tour operators • Hire craft operators • Seychelles Climate Change Adaptation Trust (SEYCCAT) • The Nature Conservancy (TNC) Small Grants Programme (SGP) • University of Seychelles (UniSey) / Blue Economy Research institute (BERI) • National Institute of Science Technology and Innovation (NISTI)
	Influence **low ——————————————————————————————>high**	

3.0 STAKEHOLDER ENGAGEMENT PLAN

The Community Development Plan (a.k.a Stakeholder Engagement Plan) is designed to address the core problem identified in the Gender and Youth Assessment for Seychelles, while maximising the engagement of stakeholders identified and prioritised in the stakeholder assessment elaborated above to ensure the successful implementation of the AFB Coral Reef Restoration Project.

The aim of the Community Development Plan is to:

- Engage stakeholders to participate fully and effectively, where possible, in the development and implementation of the AFB Coral Reef Restoration Project
- Address gender and youth issues, where possible, considering the technical requirements of the AFB Coral Reef Restoration Project
- Ensure that capacity building forms an integral part of community engagement initiatives carried out by each of the project implementing agencies

A draft Community Development Plan (annex 3) was presented to the Project development team during the 3rd steering committee meeting held between the 20th and 21st June 2017 in Seychelles. Due to budget constraints and liability concerns, this has heavily revised, with some sections removed entirely while others are being considered under the business plan for Seychelles, at no additional cost to the AFB Coral Reef Restoration Project.

The Community Development Plan is presented in table 2. This plan was finalised by the project implementation agencies, namely the Ministry of Environment, Energy and Climate Change (MEECC) in collaboration with the following key national implementing entities: Nature Seychelles (NS), Seychelles National Parks Authority (SNPA) and the Marine Conservation Society Seychelles (MCSS).

In contrast to the development plan being proposed for Mauritius, Seychelles has certain limitations when it comes to community engagement. Three restoration sites will be targeted under the AFB Coral Reef Restoration project: Cousin Island Special Reserve (main site), Curieuse Island Marine National Park (pilot site) and the reef of Anse Forbans/Anse Marie Louise in the South of Mahe (pilot site).

Cousin Island Special Reserve is an existing marine protected area that is largely unpopulated, it was established in 1980. It is managed by Nature Seychelles, and environment NGO set up in 1998. As a land-sea no take reserve, the establishment of coral restoration sites within the reserve boundary will have limited impact on the day the day activities of residents and reserve users. The Curieuse Island Marine National Park was established in 1979 and is managed by the Seychelles National Parks Authority. It too is considered a no-take one site.

In contrast, the coral reef of Anse Forbans/Anse Marie Louise in the South of Mahe has no legal protection and was proposed for the community-based coral reef restoration efforts during the

second steering committee meeting on the 8th of May 2017. The Anse Forbans site has been "adopted" by the recently formed Anse Forbans Community Conservation Programme (AFCCP), which is working in partnership with the Marine Conservation Society Seychelles (MCSS). Together, they have identified coral restoration as their main priority areas. In fact, AFCCP recently received CSR funds from the Mauritius Commercial Bank (MCB) for SCR 2000, 000 (approx. US $ 15,400) to set up land-based coral nursery to launch the coral restoration effort at Anse Forbans.

Like Mauritius, given the technical requirements of the restoration effort and the need for a SCUBA certified work force, there is little opportunity to engage marginalised groups on a large scale and provides limited opportunities for direct employment. However, coral reef restoration could provide incentives for properly educated coastal users to protect their resources and respect any code of conduct that is developed for each site. As such, as it has been suggested for Mauritius, it may be useful to employ a full-time community coordinator/facilitator, in addition to the overall project manager, who can support the community engagement process on behalf of the four implementation agencies.

To make the most of limited funds, the stakeholders were classified in groups with similar interests:

- ✓ Artisanal fishermen
- ✓ Non-executing Environmental NGOs
- ✓ Residents of Takamaka
- ✓ Civil Society Organisations & women's groups
- ✓ Teachers
- ✓ Primary and Secondary school students
- ✓ Seychelles Maritime Academy (SMA)
- ✓ University of Seychelles / Blue Economy Institute
- ✓ Environmental Youth Groups
- ✓ International volunteers

Table 2. Community Development Pan for Seychelles

Target groups	Activities	Lead Agency	Timeline	Budget per activity (US$)	Total Budget (US$)
Artisanal Fishermen	Regular meetings with fishermen to brief them about the project	SNPA, MCSS	year 1 of project, middle of project and end of project	at no cost to AFB	$-
	Engage fishermen as boat operators, non-scientific divers and/or manual labour in restoration activities	NSey	throughout the project on 6-month contracts	SCR 10,000/month	**$45,800.80**
non- executive environmental NGOs (Green Island Foundation – GIF, Seychelles Island Foundation – SIF, Island Conservation Society - ICS, Anba Lao etc.)	Organise training sessions in coral restoration techniques for at least 2 participants from each organisation	NSey	Year 4 of project	US $ 400 per day for training workshop x 10 training days x 2 workshops	**$8,000.00**
	Update the Reef Rescue training manual in coral restoration techniques (hand book and instructional video)			US $ 2,000 for printing manual.	**$2,000.00**
	Facilitate staff exchange programme between implementing agencies and other environmental NGOs, so participants can benefit from hands on experience	NSey, SNPA, MCSS	Year 4 of project	at no cost to AFB	$-
	Provide technical assistance, as necessary, for coral restoration effort outside the AFB project areas			at no cost to AFB	$-
Residents of near restoration sites	Presentation of AFB Coral Reef Restoration Project to the general public on Mahe and Praslin	MEECC, SNPA, MCSS	year 1 of project, middle of project and end of project	at no cost to AFB	$-

	Publish periodic newspaper articles in local newspapers (Nation, Today etc.)	NSey, MEECC, SNPA, MCSS,	at least 1 article every 3 months	at no cost to AFB	$-
Civil Society Organisations (CSOS), including women's groups and other vulnerable groups	Presentation of AFB Coral Reef Restoration Project for CSOs	MEECC, SNPA, MCSS	year 1 of project, middle of project and end of project	at no cost to AFB	$-
	Provide opportunities to involve interested individual/groups in land based restoration activities, specifically women's groups and other vulnerable groups		at least 2 activities per year	at no cost to AFB	$-
	Outsource non-technical respective tasks (e.g. settlement plates, coral tags, nursery tags etc)	NSey	as required	at no cost to AFB	$-
Teachers	Develop a "marine education guide to coral reef conservation & restoration" in collaboration with the eco-school coordination unit for primary schools	SNPA, MCSS	year 3 of project	US $ 2,000 to develop & design a manual, US $ 1,500 to print 100 copies of marine education teacher's manual	**$3,500.00**
	Develop a "marine education guide to coral reef conservation & restoration" in collaboration with the eco-school coordination unit for secondary schools		year 3 of project		**$3,500.00**
	Organise theoretical and practical training session for primary and secondary school teachers on Mahe, Praslin and La Digue in marine issues, climate change adaptation and coral restoration		year 4 of project	US $ 1000 per training workshop	**$2,000.00**

Primary & Secondary school students	Organise age-appropriate hands on sessions with students from Primary school on Mahe, Praslin and La Digue	SNPA, MCSS	At least 2 activities per year	at no cost to AFB	$-
	Organise age-appropriate hands on sessions with students from Secondary school on Mahe, Praslin and La Digue		At least 2 activities per year	at no cost to AFB	$-
Seychelles Maritime Academy (SMA)	Train SMA instructors in coral restoration techniques and Climate Change impacts and adaptation action	NSey, SNPA, MCSS	as required	at no cost to AFB	$-
	Incorporate coral restoration in the SMA diploma course		as required	at no cost to AFB	$-
	Provide equal opportunities for boys and girls to benefit from 2 month-long internships with each implementing agencies		Year 2 to 5	US $586.5 total allowance per person for 2-month period + housing	**$8,692**
	Provide training in basic coral and fish identification and monitoring techniques (possibly linking up with the GVI scholarship programme) and involve successful participants in monitoring changes at restoration sites		Year 2 to 5	US$ 1,200 per student for 4 years	**$9,600**
	Identify individuals for potential full-time employment in the future		beyond AFB project	at no cost to AFB	$-
University of Seychelles / Blue Economy Institute	Engage BSc and MSc in coral research projects	SNPA, MCSS	Year 2 to 5	This is included in the summer internships	$-
	Provide equal opportunities for students (boys and girls) to participate in month-long PAID internships with each implementing agencies during the holidays	NSey, SNPA, MCSS	Year 2 to 5	US $586.5 total allowance per person for 2-month period + housing	**$8,692**

	Present findings at national and regional conferences (e.g. WIOMSA)	NSey, MEECC, SNPA, MCSS,	as required	at no cost to AFB	$-
	Provide equal work opportunities (and equal pay) to University graduates (men and women) under the project		Year 2 to 5	US$ 1,200 per student for 4 years	**$9,600**
Environmental Youth Groups (Blue Economy Champions, Wildlife Clubs of Seychelles, SYAH, Eco-academia, Eco-school etc.)	Organise age-appropriate education and awareness activities	SNPA, MCSS	at least 2 activities per year	at no cost to AFB	$-
	Provide equal opportunities for boys and girls to participate in month-long UNPAID internships with each implementing agencies during the school holidays	NSey, SNPA, MCSS	3 times a year	at no cost to AFB	$-
International Volunteers	Provide equal opportunities for non-scientific volunteers (boys and girls) with SCUBA certification to participate in 3 month-long UNPAID Reef Rescue internships	NSey	throughout the project	at no cost to AFB	$-
	Provide equal opportunities for scientific volunteers (boys and girls) with SCUBA certification to participate in 3 month-long PAID Reef Rescue internships			See notes	**$190,733.30**
Community engagement specialist	Employ a Seychellois staff for community outreach	MCSS	throughout the project	US $ 1,082/ month, 2 % inflation rate/year	**$67,569.00**

ANNEX 1

Table 1. Identification of stakeholder and their interest in the AFB Coral Reef Restoration Project.

Stakeholders	Interest of stakeholder in relation to AFB Coral Reef Restoration project	Effect of AFB project on interest (+/-)	Importance of stakeholder for success of AFB project 1 = little/no importance, 2 = some importance, 3 = moderate importance, 4 = very important, 5 = critical player	Degree of influence of stakeholder over AFB project 1 = little/no influence, 2 = some influence, 3 = moderate influence, 4 = very influential, 5 = critical player
Ministry of Environment, Energy and Climate Change (MEECC) (& the Programme Coordination Unit ?)	• PCU can provide implementation support • PCU can provide reporting support • MEECC primary recipient of AFB funds • MEECC has not decided on implementation modality • exiting structure for PCU to implement projects on behalf of MEECC • MEECC GIS unit have GIS maps for marine habitats for Marine Spatial Plan • MEECC responsible for disbursing AFB funds • PCU has experience in AFB projects	(+) (+) (+) (-) (+) (+) (+ / -) (+)	5	5
Nature Seychelles	• project lead • environmental NGO • project implementer • ongoing reef rescue programme • marine conservation centre on Praslin • existing structure in place for education and awareness (website, Facebook, newsletters etc.) • opportunity for land based nursey • manages Cousin Island Special Reserve • existing coral restoration project • intention to scale up coral nursery • increase reef restoration area • have developed their own coral reef restoration protocols • 1+year experience in coral restoration • technical expertise in reef restoration	(+ / -) (+) (+) (+) (+) (+) (+) (+) (+) (+) (+) (+ / -) (+) (+)	5	5

	• partnership with Lemuria Resort • expertise to organise/facilitate training sessions	(+) (+)		
Seychelles National Parks Authority (SNPA)	• project implementer • government agency • existing coral restoration project • existing structure in place for education and awareness (website, Facebook, newsletters, school talks etc.) • scale up coral nursery • increase reef restoration area in AFB project area • expand reef restoration outside AFB project area • 1+year experience in coral restoration (UNEP-EBA project) • testing 4 nursery techniques • MoU with GVI for marine monitoring support • existing research unit • have developed their own coral reef restoration protocols • Marine Spatial Mapping for Curieuse Island Marine National Park (ID donor sites and restoration areas) • increase capacity of staff • publication of research results • expertise to organise/facilitate training sessions • manages 7 marine National parks, including the Curieuse Island Marine National Park	(+ / -) ? (+) (+) (+) (+) (+) (+) (+ / -) (+) (+) (+ / -) (+) (+) (+) (+) (+)	5	5
Marine Conservation Society Seychelles (MCSS)	• project implementer • existing coral restoration project • environmental NGO • existing structure in place for education and awareness (website, Facebook, newsletters etc.) • experimenting with multiple nursey design • partnership with Cerf Island Resort • partnership with SNPA (expand reef restoration within Ste. Anne MPA) • have developed their own coral reef restoration protocols • partnership with Anse Forbans community group • scale up coral nursery • scale up reef restoration in project area	(+ / -) (+) (+) (+) (+ / -) (+) (+) (+ / -) (+) (+) (+)	5	5

	• own their own boat • access to larger boats if necessary • own SCUBA gear • Confirmed funding for small on-land nursery • infrastructure to support up to 6 interns at a time • partnership with Underwater Centre • 4 staff with coral restoration experience • existing plans to expand reef restoration outside project area • 1+year experience in coral restoration • experience with private partnership • experience with community outreach • expertise to organise/facilitate training sessions	(+) (+) (+) (+) (+) (+) (+) (+) (+) (+) (+) (+) (+)		
Seychelles Fishing Authority (SFA)	• food security • opportunities for clam mariculture • opportunities for coral culture? • regulate and monitor artisanal fishing • Government agency	(+) (+) (+) (+) ?	2	3
Green Island Foundation (GIF)	• opportunities to participate in training activities • Conservation programme on Denis Island Private Resort • Conservation programme on North Island Private Resort • opportunities for partnerships with AFB project implementers • environmental NGO • existing partnerships with other agencies/institutions • possibility to expand reef restoration outside project area	(+) (+) (+) (+) (+) (+) (+)	2	1
Seychelles Island Foundation (SIF)	• opportunities to participate in training activities • possibility to expand reef restoration outside project area • extensive experience in coral monitoring/mapping • conservation programme on Aldabra • UNESCO World Heritage Site • Government agency • networking opportunities	(+) (+) (+) (+) (+) ? (+)	2	1

Island Conservation Society (ICS)	• opportunities to participate in training activities • possibility to expand AFB reef restoration outside project area • limited man-power & equipment for marine work • Conservation programme on Aride & Silhouette island • Conservation programme on Outer islands • Management have queries on cost/benefit of restoration effort • Primary focus is terrestrial monitoring • Conservation managers recently underwent coral monitoring training with GOS-UNDP-GEF outer islands project • existing structure in place for education and awareness (website, Facebook, newsletters etc.)	(+) (+) (-) (+) (+) (+ / -) (-) (+) (+)	2	1
Seychelles Maritime Academy (SMA) previously Maritime Training Centre	• opportunities to participate in training activities • integrate coral restoration in curriculum • youth engagement • opportunities for student internship • capacity building for staff • may need to provide an allowance (scr 200-400 per day) • pool of non-scientific SCUBA divers	(+) (+) (+) (+) (+) (+ / -) (+)	3	1
Wise Oceans	• existing small-scale coral restoration project • have developed their own coral reef restoration protocols • experience with education outreach with local schools & youth groups • partnership with Raffles Resort • plans to expand marine education programme with all schools (marine holiday programme at Cap Ternay)- currently limited by lack of funds to employ additional staff • provide guide snorkelling tours with tourist • existing structure in place for education and awareness (website, Facebook, newsletters etc.)	(+) (+ / -) (+) (+) (+ / -) (+) (+)	3	1
Black Pearl Seychelles	• stopped breeding clams 5 years ago and currently have 3,000 giant clam brood stock in tanks (25-30m long - valued at about €30 to €40 per clam) • aquarium trade not very profitable as expensive to export, plus high mortality during shipping	(+ / -) (+)	3	1

	• planning to sell clams from brood stock to Hotels/Chinese at €15 per kg • if get publicity for Pearl Farm, willing to negotiate price for coral restoration project • might consider re-starting breeding programme but need at least 1year to 1.5 years lead time to get clams to approximate 5cm. Will need to negotiate price for new stock	(+) (+) (+ / -)		
Artisanal fishermen	• beneficiaries of MPA spill over (10+years) • complain about super yachts being allowed to anchor in Curieuse Island Marine National Park - need moorings at Anse Possession • recognise impact of divers/snorkelers on corals • recognise impact of sedimentation from reclamation on corals • restricted fishing areas (only Anse Forbans outside protected area network) • likely to cause anchor damage on reef • possibility for alternative livelihood (sea cucumber fishermen/octopus fishermen?) • Possible source of boat men (scr 500 per day) and additional support boats (scr 2500 per day) plus fuel • Generally, not interested in becoming PADI certified SCUBA divers • possible pool of non-scientific mostly uncertified SCUBA divers (sea cucumber fishermen/octopus fishermen?) • destructive fishing practices (e.g. traps or fishing line damage transplanted corals) • generally, support phased restoration effort (i.e. part of reef available for fishing) • require site specific education & awareness • can assist with word-of mouth to engage other fishers	(+) (+) (-) (-) (+) (+) (+) (+ / -) (-) (+) (+) (+ / -) (+) (+)	4	3
University of Seychelles (UniSey) / Blue Economy Research	• youth engagement • opportunities for student internship • incorporate coral restoration in BSc curriculum • opportunities to get involved in coral research • publication of research results • networking opportunities with project implementers	(+) (+) (+) (+) (+) (+)	2	3

	• build capacity of staff • attract additional funds for coral research • Unable to provide direct financial support • UniSey starting MSc in Marine Science & Climate Change in February 2018 • 6 new researchers expected to start in September 2017 • prefer to be involved in sites near UniSey (e.g. Anse Forbans, maybe Ste Anne Marine Park) • opportunities for student internship (July/August) • opportunities for partnerships with international universities/institute • opportunities to participate in training activities	(+) (+) (-) (+) (+) (+ /-) (+ / -) (+) (+)		
Dive Centres (Mahe & Praslin)	• indirect beneficiaries • knowledge of potential coral donor sites outside restoration areas • Praslin Dive Centres unable to provide boat, equipment or staff (busy with tourist) • Mahe Dive Centres open to boat with skipper (scr 4,500 per day or scr 3,000 for half day) and equipment hire (scr 225 per set of diving gear per day plus Scr 75 for dive tanks and weights -not including 15% VAT) - not diving staff • restored dive sites attract fish, increase customer satisfaction • increase income over the long term • likely to cause anchor damage on reef • Praslin Dive Centres already doing some restoration (collect coral fragments and secure into holes in substrate) • restricted access to restoration site • potential to train SCUBA divers up to rescue diver • Mahe dive centres offer residential rates - OW = scr 5,000 AOW = scr 4,500 First Aid = scr 1,200 RD = scr 4,500 • Praslin dive centres do not offer residential rates - OW = € 420 AOW = € 300 First Aid = € 120 RD = € 500	(+) (+) (+) (+) (+) (+) (-) (+ / -) (-) (+) (+) (-)	2	3

Coastal Community Group (e.g. Anse Forbans)	• opportunities to participate in training activities • assist with populating coral nursery • assist with maintenance of coral nursery • youth engagement • involve the elderly • community engagement • involve men and women • AFCCP awarded CSR grant of scr 200,000 for on-land coral nursery • AFCCP applied for land from Government for conservation centre • AFCCP identified coral restoration as top priority but lack funds to implement • activity coordination by group members • available on weekends/public holidays • possibility for alternative livelihood for community • increased coastline protection • increased food security for community • access to boats owned by group members • existing partnership with private sector • community education & awareness • Population of Takamaka district according to the 2010 national census - 2,825 residents • Population of Baie Ste Anne Praslin district according to the 2010 national census - 4,876 residents	(+) (+) (+) (+) (+) (+) (+) (+) (+) (+ / -) (+ / -) (+) (+) (+) (+ / -) (+) (+) (+) (+)	4	2
Tour operators and boat operators (Mahe & Praslin)	• indirect beneficiaries • restored dive sites attract fish, increase customer satisfaction • increased income over the long term • likely to cause anchor damage on reef • unable to provide boat, equipment or staff (busy with tourist) • restricted access to restoration site • not likely to volunteer for activities • Charge €70 + scr 500 tax per person for trip to Cousin (also have 3 island tour packages for €130 including tax)	(+) (+) (+) (-) (+) (-) (-) (+)	2	3

	• charge €15 - €20 + 200 tax per person for snorkelling trip to St. Pierre (usually combine with trip to Curieuse Island at €65 + scr200 tax) • aware that there is a need for mooring buoys to protect reefs • complain about divers damaging reef with fins • potential for education & awareness for tourists (through posters and brochures produced under AFB project) • require training in basic tour guiding & marine sciences	(+) (+) (-) (+ / -) (+)		
Anba Lao	• 1+year experience in coral restoration • trialling macro-algal control measures • opportunities to participate in training activities • exiting partnership with SNPA • expertise to organise/facilitate training sessions	(+) (+) (+) (+) (+)	2	2
Seychelles Climate Change Adaptation Trust (SEYCCAT)	• potential grants for other restoration projects • will issue annual competitive calls for proposals • supporting expansion of protected areas network to 30% of EEZ • focus on ecosystem (Inc. coral) restoration • funds are available to individuals, business, NGOs and government depts. • potential grants to provide additional support to AFB project	(+) (+) (+) (+) (+) (+)	2	3
The Nature Conservancy (TNC)	• developing the Marine Spatial Mapping for Seychelles (30% marine protected areas) • assist with site selections beyond project lifespan (existing GIS maps for marine habitats/features) • capacity building for staff • networking opportunities with international agencies/institutions • can provide with overview / global context with other TNC projects/initiatives	(+) (+) (+) (+) (+)	2	3
Save our Seas Foundation (SOSF)	• Conservation programme on D'Arros Atoll • 1+year experience in coral restoration • existing coral restoration project • links with international marine expertise • opportunities to participate in training activities • potential grants for other restoration projects	(+) (+) (+) (+) (+) (+)	1	1

	• potential for additional funding for publication or equipment	(+)		
Hotels/Resort near restoration area	• possible location for on-land nurseries • partners in outreach for tourist • source of CSR / additional fundraising • communication tailored to tourist • potential outlet for coral friendly sun tan lotion • potential grants from international hotel chains • growing in interest NGO/community partnerships • Opportunity to involve hotel staff	(+ / -) (+) (+) (+ / -) (+) (+) (+) (+)	3	2
Global Vision International (GVI)	• Volunteers based in Curieuse Island & Cap Ternay Marine Park • offer scholarships to Seychellois • Experience with community outreach • Pool of trained scientific SCUBA divers (coral and fish knowledge) • MoU with SNPA dictate scope of work • assist with coral & fish monitoring • existing coral & fish ID training programme • Experience with community outreach	(+) (+) (+) (+) (+ / -) (+) (+) (+)	2	1
Environmental Youth Groups (blue Economy Champions, Wildlife Clubs of Seychelles, SYAH, Eco-academia, Eco-school etc.)	• Youth engagement opportunities for project • need to provide refreshments, snacks and freebies for each activity • experience with youth outreach • opportunities to participate in training activities • available on weekends • available during school holidays • pool of non-diving volunteers • opportunities for student internship • youth empowerment (wish to make a difference/ to be heard) • networking opportunities with other youth groups (non-environmental) • could assist with populating coral nursery • could assist with maintenance of coral nursery • opportunity include coral restoration in school curriculum	(+) (+ / -) (+) (+) (+ / -) (+ / -) (+) (+) (+) (+) (+) (+)	2	2

UNDP – Seychelles	• helping to realize directly the objectives of SDG 14 • UNDP's resources/oversight and management during project implementation • assisted with development of AFB concept note • assisting with development of AFB project proposal • facilitate networking with various technical experts • encouraging south-south cooperation with other islands in the Indian Ocean.	(+) (+) (+) (+) (+) (+)	4	4
Seychelles Prison (non-violent criminals)	• pool of non-diving volunteers on day release • opportunity for alternative livelihood • assist with populating coral nursery • existing partnership with Nature Seychelles • Existing partnership with AFCCP • assist with maintenance of coral nursery • risk of inmates escaping (low) • project can target vulnerable individuals	(+ / -) (+) (+) (+) (+) (+) (+) (-)	1	1
National Institute of Science Technology and Innovation (NISTI)	• potential for networking • potential for research collaboration	(+) (+)	1	3
Small grants programme (SGP)	• leverage funding for SGP project • knowledge exchange with project partners & government agencies • co-financing for AFB project esp. at Anse Forbans • good links with community groups	(+) (+) (+) (+)	2	3
Civil Society organisations, including Gender and Vulnerable groups	• Most NGOs, CSOs etc. registered with the Civil Engagement Platform Seychelles (CEPS) • 7 thematic CEPS commissions - Education, Social & Health Commission, Professional Commission, Faith-based Commission, Environment & Natural Resource Commission, Gender, Rights & Governance Commission, Youth, Culture & Sports Commission and Socio-economic Commission • Strong links to community • Strong links to vulnerable groups • Opportunities for education and awareness • Opportunity to engage women and youth	(+) (+) (+) (+) (+) (+)	5	2

	• Opportunity to engage individuals with physical and mental disabilities	(+)		
International tourist	• most have limited knowledge on what a healthy reef should look like • happy to see fish, turtles and sharks • would buy coral friendly sun tan lotion if available locally • generally, not aware of El Nino or coral bleaching • willing to pay for guided tours (land and marine) • complain about service delivery • Might consider donating to community activities	(+ / -) (+ / -) (+) (-) (+) (-) (+)	1	1
Department of Blue Economy	• opportunities for networking and building partnerships • strategic policy guidance • national collaboration (can be part of the steering committee) • possible local in country logistics support • set up blue economy champions initiative with SYAH, so mechanism in place to attract, monitor and expand internship programme	(+) (+) (+) (+) (+)	4	4
other marine related project (UNEP Ecosystem-based Adaptation project, GOS-UNDP-GEF outer island project, GOS-UNDP-GEF protected areas finance project, GOS-UNDP-GEF Ecosystem-based Adaptation project etc.)	• additional financial support for AFB project activities e.g. capacity building, education & awareness • networking opportunities with project partners • extension of project activities of the existing project	(+) (+) (+)	1	1

ANNEX 2

Table 2. List of NGOs/CSOs and other organisations registered with the Civil Engagement Platform Seychelles.

CEPS commission	Name of Organisation	Email Contact
Environment & Natural Resources Commission	Sustainability for Seychelles (S4S)	purvismt@hotmail.com
	Moyenne Island (Foundation) Society (MIFS)	spatel@pnp.sc
	Plant Conservation Action Group (PCA)	pca.seychelles@gmail.com
	Terrestrial Restoration Action Society of Seychelles (TRASS)	trass.seychelles@gmail.com
	Life and Water Seychelles (LAWS)	westwaysupplies@outlook.com
	Nature Seychelles (NS)	projects@natureseychelles.org
	Island Conservation Society (ICS)	askerret@homail.com
	Green Islands Foundation (GIF)	gm@gif.sc
	Sea Turtle Festival Seychelles (STFS)	seychelles@gviworld.com
Faith-based organisations	Seychelles Bible Society	biblesoc@seychelles.net
	Everlasting Love Ministry (ELM)	Judefred@yahoo.com
	Grace Family Network (GFN)	gracefamilynetwork@gmail.com
	Seychelles Bible Society	biblesoc@seychelles.net
	The Church of Pentecost(COP)	fiankolarbi@gmail.com
	National Spiritual Assembly of the Bahais of Seychelles	bahaiexternalaffairs@seychelles.net
	Youth for Christ International Seychelles	mervinpool@gmail.com
Gender, Rights & Governance Commission	Seychelles Association of Women Professionals (SAWOP)	servina9mr@yahoo.com
	Association of Fathers Promoting Responsibility Parenthood	mervinfanny@gmail.com
	International Friendship League (IFL)	nellcons@seychelles.net
	Lasosyasyon Pour Promouvwar Latrankilite ek Respe (LPLR)	lindy_ernesta@live.com
	National Consumers Forum (NATCOF)	natcof@seychelles.net
	Citizens Democracy Watch (Seychelles)	citizenswatchseychelles@gmail.com
	Coorperative Des Artisans	mariettemck@hotmail.com
	Women In Partnership Against poverty	ernestaursanne@gmail.com
	Association for Rights, Information & Democracy (ARID)	luci_anne@live.com
	The Voice Association	thevoicesey@gmail.com
Professional Commission	Nurses Association of Seychelles (NARS)	rosie.bistoquet@health.gov.sc
	Association of Media Practitioners Seychelles (AMPS)	barbara.coopoosamy@sbc.sc
	Seychelles Headteachers Association (SHA)	manciennesonia@yahoo.com
	Seychelles Occupational Therapy Association (SEYOTA)	jjcup@hotmail.co.uk
	Seychelles Physiotherapy Association (SPA)	seyphysiotherapy@outlook.com
	Seychelles Empowerment-Based Social Workers Association	georges.nicette@unisey.ac.sc

	Social Workers Association of the Republic of Seychelles	blaboudallon@gov.sc
Social, Education & Health Commission	H.I.V. and AIDS Support Organisations (HASO)	rarnephy@gmail.com
	Alliance of Solidarity for the Family(ASFF)	asff@seychelles.net
	Association With People with Hearing Impairment (APHI)	Lizyepoutande@yahoo.com.au
	Campaign for Awareness, Resilience and Education (CARE)	care@seychelles.net
	Cancer Concern	jmpayet@airseychelles.com
	CARITAS Seychelles	caritasey@intelvision.net
	C'entre D'Acceuil de la Rosiere	centrelarosiere@yahoo.com
	Seychelles Children Foundation	j.hoareau@scf.gov.sc
	Friends of Prison Association Of Seychelles	friendsofprisons@gmail.com
	H.I.V. and AIDS Support Organisations (HASO)	hasoseychelles@yahoo.com
	Les Li viv	lesliviv.prolife@gmail.com
	Light Amidst My Path (LAMP)	lightpath26@yahoo.com
	Love and Care Association	mmjacq@yahoo.com
	Nou La Pour Ou	noulapourou@seychelles.net
	Association for the Promotion of Solid Human Families (APSHF)	apshf@seychelles.net
	NOAH'S CENTRE	nicollesperance4@yahoo.com
	Seychelles Empowerment-based Social Workers' Association	georges.nicette@unisey.ac.sc
	Social Workers Association of the Republic of Seychelles	blaboudallon@gov.sc
	Brother Dudes Sovereign Supporters	deanpadayachi@yahoo.com
	Family Action Team of Mont Buxton	lindaphiloe7@gmail.com
	Survival Ark Foundation	Julievivianne72@gmail.com
	National Council for the Disabled	ncfd@seychelles.net
Socio-economic commission	Lasosyasyon Peser Praslin	pfa@seychelles.net
	L'entreprendre Au Feminin Ocean Indien Seychelles	calbertsez@seychelles.net
	Women Action In of Solidarity (WASO)	seyrosie@gmail.com
	Cooperative Des Artisans	mariettemck@hotmail.com
	Val d'Endorre Farmers Association (VDFA)	vjroses@hotmail.com
	Seychelles Association of Omnibus Association	classivetranserv@seychelles.net
	Seychelles Farmers Association	seychellesfarmers@gmail.com
Youth, Culture & sports Commission	Compassion Foundation	joannateresapouponneau@gmail.com
	PRO-ART Seychelles	dodo4charles@yahoo.com
	Seychelles Mixed Martial Arts Association	adrian.nanty@gmail.com
	Seychelles Scouts Association (SSA)	holbertjean@yahoo.com
	Seychelles Sports Fishing Club-(SSFC)	jadeocean@live.com
	Yoga Association Seychelles	yogaseychelles@gmail.com
	Youth For Christ International Seychelles (YFCIS)	mervinpool@gmail.com
	UNITED FOR A PURPOSE BRIGADE	d.bistoe@gmail.com

	SIDS YOUTH AIMS HUB-SEYCHELLES (SYAH)	mfinesse.mf@gmail.com
	Science et Sport	zaher@scienceetsport.com
	Anse Etoile Youth Action Team (AYAT)	terrence.crea@yahoo.com
	AIESEC SEYCHELLES	bogar.gmilan@aiesec.net
	Bling Bling Poetry	blingblingpoetry@hotmail.com
	Arterial Network Seychelles	georgecamille@gmail.com
	Global Shapers Community Victoria hub	ash14_88@hotmail.com
	Better Life Foundation	info@pluus.sc
	Sports, Arts and Culture for Kids Initiative (SACKI)	chaseca.monnaie@gmail.com
	African Community Association of Seychelles	acasseychelles@gmail.com
	Stand up, Step up	tirellouise@gmail.com
	L'Association Seychelloise Pour La Jeunesse et L'animation	annemarie_mathiot@yahoo.com

Annex 3

PowerPoint Presentation by Elke Talma
Draft Community Development Plan for Seychelles
3rd steering committee meeting, Care House, Seychelles
20th June 2017

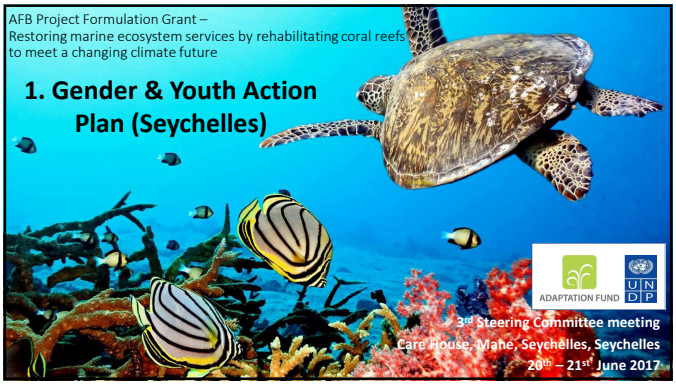
AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

Gender & Youth Action Plan & Community development Plan for Seychelles

3rd Steering Committee meeting
Care House, Mahe, Seychelles, Seychelles
20th – 21st June 2017

AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

1. Gender & Youth Action Plan (Seychelles)



3rd Steering Committee meeting
Care House, Mahe, Seychelles, Seychelles
20th – 21st June 2017

Gender & Youth Action Plan (Seychelles)

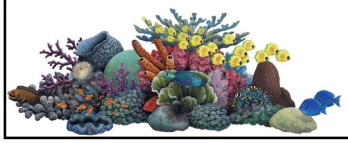
The Gender and Youth Action Plan is based on the findings of the Gender and Youth Assessment for Seychelles, which investigates gender & youth issues in the following areas:

- Constitutional and Legal Rights
- Governance and Political Participation
- Education and Training
- Health, Violence Against Women and Bullying
- Productive Resources, Employment and Economic Empowerment
- Climate Change, Sustainable Development and Disaster Risk Management

Gender & Youth Action Plan (Seychelles)

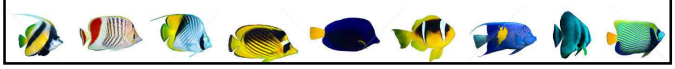
The principal recommendations resulting from these consultations were:

- the inclusion of sex and age-specific indicators in the Project's Logic Framework,
- the targeting of women-headed vulnerable households as beneficiaries,
- and the need for education and information activities, preferably with participation of NGOs and civil society groups.



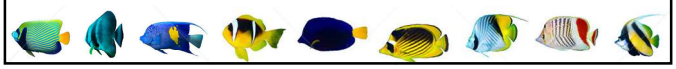
Gender & Youth Action Plan (Seychelles)

Project Components & Objectives	Responsible Entity
COMPONENT 2 (SEYCHELLES): 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 Seychelles, in order to restore their essential ecosystem services	
2.1 Development of a sustainable partnership and business approach to reef restoration	MEECC, Nature Seychelles, SNPA and MCSS
2.2 Establishment of coral farming and nursery facilities	MEECC, Nature Seychelles, SNPA and MCSS
2.3 Active restoration of degraded reefs, with maintenance and monitoring of survival and growth rates of transplanted corals	MEECC, Nature Seychelles, SNPA and MCSS



Gender & Youth Action Plan (Seychelles)

Project Components & Objectives	Responsible Entity
COMPONENT 3 (SEYCHELLES & MAURITIUS): To generate knowledge and understanding about the use of coral restoration as an adaptation measure	
3.1 Improved understanding and knowledge management of use of reef restoration as an adaptation measure	MEECC, Nature Seychelles, SNPA and MCSS
3.2 Lessons learned regionally and globally on methods and approaches to sustainable reef restoration are disseminated	MEECC, Nature Seychelles, SNPA and MCSS
3.2 Training to build capacity for sustainable coral reef restoration	Nature Seychelles leads training, SNPA & MCSS supports community based – restoration & NGO training



Gender & Youth Action Plan (Seychelles)

Project Components/Objectives	Action / Strategy	Performance / Target indicators	Responsible Entity
Overall project planning and implementation			
Engage men, women, youth and other vulnerable groups in project planning and implementation	Using an adaptive management approach, develop a Community Development Plan	• Community Development Plan completed at the start of the project and reviewed periodically	Programme Coordination Unit of the Ministry of Environment, Energy and Climate Change (PCU-MEECC) + UNDP Seychelles
	Ensure men, women and youth are included consultations prior to and during project implementation to ensure that they receive sufficient information about the project and create opportunities for them to voice their views on the project	• At least 40% women and 20% youth represented in consultation forums • At least 20% women and 10% youth on the project steering committee	
	Ensure appropriate social inclusion in decision-making	• Number of women's groups, youth groups and other vulnerable groups consulted during project implementation	

Gender & Youth Action Plan (Seychelles)

Project Components/Objectives	Action / Strategy	Performance / Target indicators	Responsible Entity
Overall project planning and implementation … continued			
Engage men, women, youth and other vulnerable groups in project planning and implementation	As needed, provide training on gender equality to agencies engaged with the project to improve their understanding of gender concerns and increase their capacity to implement the Project's gender action plan	• Number of training sessions with organised • At least 30% women and 20% youth participation in training	Programme Coordination Unit of the Ministry of Environment, Energy and Climate Change (PCU-MEECC) + UNDP Seychelles
	Equal work opportunities (and equal pay) will be provided to men and women under the project	• Number of men and women involved in project activities	
	The PCU-MEECC or UNDP Seychelles will be responsible for monitoring and review of the above set targets for women and youth as per AFB reporting schedule	• sexr & age disaggregated attendance lists for all project activities	

AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

2. Community Development Plan (Seychelles)

3rd Steering Committee meeting
Care House, Mahe, Seychelles, Seychelles
20th – 21st June 2017

Community Development Plan (Seychelles)

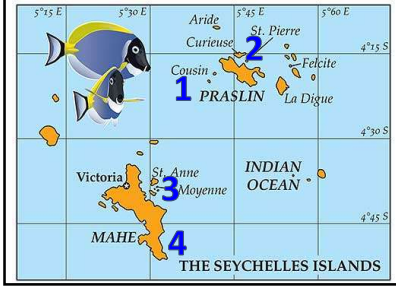
IMPLEMENTING PARTNERS CONFIRMED AT THE 2ND STEERING COMMITTEE MEETING:

1.EXECUTING INSTITUTIONS
- Ministry of Environment, Energy and Climate Change (MEECC)
- Nature Seychelles (NS)
- Seychelles National Parks Authority (SNPA)

2. COMMUNITY ENGAGEMENT SPECIALIST
- Marine Conservation Society Seychelles (MCSS)

Community Development Plan (Seychelles)

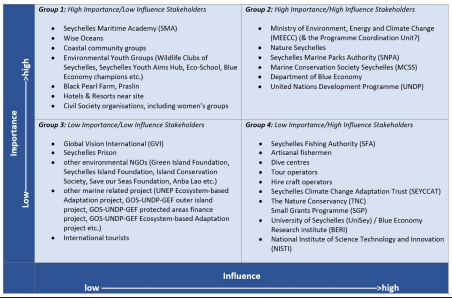
PROJECT SITES PROPOSED AT THE 2ND STEERING COMMITTEE MEETING:



1. Cousin Nature Reserve
2. Curieuse & St. Pierre Marine Park
3. Ste. Anne Marine Park
4. reef off the beaches of Anse Forbans / Anse Marie-Louise

Community Development Plan (Seychelles)

STAKEHOLDER IDENTIFICATION, ASSESSMENT AND PRIORITISATION:



Community Development Plan (Seychelles)

STAKEHOLDER IDENTIFICATION, ASSESSMENT AND PRIORITISATION:

Group 1: *High Importance / Low Influence Stakeholders*

- Seychelles Maritime Academy (SMA)
- Wise Oceans
- Coastal community groups
- Environmental Youth Groups
  - Wildlife Clubs of Seychelles, Seychelles Youth Aims Hub, Eco-School, Blue Economy champions etc.
- Black Pearl Farm, Praslin
- Hotels & Resorts near site
- Civil Society organisations, including women's groups

Community Development Plan (Seychelles)

STAKEHOLDER IDENTIFICATION, ASSESSMENT AND PRIORITISATION:

Group 2: *High Importance / High Influence Stakeholders*

- Ministry of Environment, Energy and Climate Change (MEECC) / Programme Coordination Unit (PCU)
- Nature Seychelles
- Seychelles Marine Parks Authority (SNPA)
- Marine Conservation Society Seychelles (MCSS)
- Department of Blue Economy
- UNDP

IMPROTANT: these stakeholder needs to be included in the Project Steering Committee for Seychelles

Community Development Plan (Seychelles)

STAKEHOLDER IDENTIFICATION, ASSESSMENT AND PRIORITISATION:

Group 3: *Low Importance / Low Influence Stakeholders*

- Global Vision International (GVI)
- Seychelles Prison
- International tourists
- other environmental NGOs
  - Green Island Foundation, Seychelles Island Foundation, Island Conservation Society, Save our Seas Foundation, Anba Lao etc.)
- other marine related project
  - UNEP Ecosystem-based Adaptation project, GOS-UNDP-GEF outer island project, GOS-UNDP-GEF protected areas finance project, GOS-UNDP-GEF Ecosystem-based Adaptation project etc.

Community Development Plan (Seychelles)

STAKEHOLDER IDENTIFICATION, ASSESSMENT AND PRIORITISATION:

Group 4: *Low Importance / High Influence Stakeholders*

- Seychelles Fishing Authority (SFA)
- Artisanal fishermen
- Dive centres
- Tour operators
- Hire craft operators
- Seychelles Climate Change Adaptation Trust (SEYCCAT)
- The Nature Conservancy (TNC)
- Small Grants Programme (SGP)
- University of Seychelles (UniSey) / Blue Economy Research institute (BERI)
- National Institute of Science Technology and Innovation (NISTI)

Community Development Plan (Seychelles)

STAKEHOLDER ENGAGEMENT PLAN (… a.k.a community development plan)

The aim of the Community Development Plan is to:

- ✓ Engage stakeholders to participate fully and effectively, where possible, in the development and implementation of the AFB Coral Reef Restoration Project
- ✓ Address gender and youth issues, where possible, considering the technical requirements of the AFB Coral Reef Restoration Project
- ✓ Ensure that capacity building forms an integral part of community engagement initiatives carried out by each of the project implementing agencies

IMPORTANT: given the technical requirements of the restoration effort, there is little opportunity to engage marginalised groups on a large scale and limited opportunities for direct employment.

Community Development Plan (Seychelles)

STAKEHOLDER ENGAGEMENT PLAN (… a.k.a community development plan)

Stakeholders groups being targetted:

- ✓ Policy-makers / Decisions-makers
- ✓ Artisanal fishermen
- ✓ Tourism establishments
- ✓ Tour Operators and Dive Operators
- ✓ Black Pearl Farm
- ✓ Environmental NGOs
- ✓ Residents near restoration sites
- ✓ Civil Society Organisations & women's groups
- ✓ Teachers
- ✓ Primary and Secondary school students
- ✓ Seychelles Maritime Academy (SMA)
- ✓ University of Seychelles / Blue Economy Institute
- ✓ Environmental Youth Groups
- ✓ Non-violent prisoners
- ✓ Orphanages on Mahe

?? International volunteers

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Policy-makers / Decisions-makers	High level presentation of AFB Coral Reef Restoration Project for stakeholders who can assist with networking and sourcing additional financing (e.g. representatives from Blue Economy departments, Ministry of Foreign Affairs, Ministry of Fisheries, Ministry of Tourism, TNC, SEYCCAY, NISTI etc.)	MEECC, Nature Seychelles, SNPA, MCSS	year 1 of project, middle of project and end of project	US $ 2,000 per workshop
	Presentation of AFB Coral Reef Restoration Project to stakeholders who can assist with regulations and enforcement (e.g. police, coast guard, the Judiciary and other relevant authorities)		year 1 of project, middle of project and end of project	US $ 2,000 per workshop
	Presentation of AFB Coral Reef Restoration Project to stakeholders with political influence (e.g. district administrators, members of the National Assembly, district councils etc.)		year 1 of project, middle of project and end of project	US $ 2,000 per workshop

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Artisanal Fishermen (e.g. Praslin fishermen's Association, Fishermen and boat owner's association etc.)	Site specific meetings with relevant fishermen's association, namely ○ **Cousin Nature Reserve site -** Grand Anse on Praslin ○ **Curieuse Marine Park site -** Baie Ste Anne on Praslin ○ **Ste Anne Marine Park -** Roche Caiman, English River and Cascade on Mahe ○ **Anse Forbans reef -** Takamaka on Mahe	Nature Seychelles, SNPA, MCSS	year 1 of project, middle of project and end of project	US $ 1,000 per workshop
	Engage fishermen as necessary/feasible in restoration activities (e.g. boat operators, manual labour)		Throughout the project	US $ 23 - 40 per fishermen per day, US $ 230 per boat (including fuel) per day
	Identify a "coral restoration champion" for each site to act as liaison with other fishermen		Throughout the project	Allowance?

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Tourism establishments in or near the project area	Presentation of AFB Coral Reef Restoration Project to the management and guest relations staff: ○ **Cousin Nature Reserve site -** Lemuria Resort and other hotels/guest houses at Anse Kerlan, Praslin ○ **Curieuse Marine Park site -** Raffles Resort, Le Domaine La Reserve, Paradise Sun Resort and other hotels/guest houses at Cot D'Or, Praslin ○ **Ste Anne Marine Park -** Ste Anne Resort, Eden Blue Hotel, Cerf island Resort and other hotels/guest houses on Cerf island ○ **Anse Forbans reef -** Allamanda Resort & Spa, Chalet D'Anse Forbans, Banyan Tree Resort and other hotels/guest houses in Takamaka, Mahe	Nature Seychelles, SNPA, MCSS	year 1 of project, middle of project and end of project	Hotels can provide venue & refreshments as in-kind contribution

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Tourism establishments in or near the project area	Sign agreements for land-based coral nurseries or to purchase coral fragments (at least 1 per implementing agency)	Nature Seychelles, SNPA, MCSS	year 1 of project	Hotels can fund land-based nursery
	Identify at least 2 staff per hotel ("coral restoration champions") to oversee/assist with nursery operations and client education & awareness		Throughout the project	Hotel can provide additional allowance for "coral restoration champion"
	Develop a training module to be included in the staff induction course (to be presented by staff of implementation agencies together with "coral restoration champions")		?	?
	Develop site specific education & awareness materials (brochures, posters, documentary) for tourists and hotel staff		?	US $ 5,000 for education & awareness materials

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Tour Operators / Boat Operators / Dive Operators	Site specific presentation of AFB Coral Reef Restoration Project targeting relevant operators	Nature Seychelles, SNPA, MCSS	year 1 of project	US $ 500 per workshop
	Develop informative brochures and/or posters (could link with hotel brochures)		?	US $ 5,000 for brochures/posters
	Identify additional restoration sites that could enhance the user experience		?	?
	Encourage Centres to 'Adopt' local sites and undertake restoration with guidance from implementing agencies		?	In-kind contribution
	Engage Dive Operators on Mahe and Praslin in training interns up to Rescue Diver level		?	US $ 1,200 per person for complete PADI SCUBA training
	Engage Dive Operators to provide resources / facilities to the project (e.g. boat & equipment hire at preferential rates or free once a week)		?	US $ 350 per day for boat rental, US $ 50 per day per equipment hire

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Environmental NGOs (Green Island Foundation – GIF, Seychelles Island Foundation – SIF, Island Conservation Society -ICS, Anba Lao etc.)	Organise training sessions in coral restoration techniques for at least 2 participants from each organisation	Nature Seychelles	Year 3 of project	US $ 500 per day for training workshop + US $ XXX site visits
	Update the Reef Rescue training manual in coral restoration techniques (hand book and instructional video)		Year 4 of project	US $ 2,000 for printing manual. US $ 2,500 for video
	Facilitate staff exchange programme between implementing agencies and environmental NGOs, so participants can benefit from hands on experience	MEECC, Nature Seychelles, SNPA, MCSS	Year 4 of project	?
	Provide technical assistance, as necessary, for coral restoration effort outside the AFB project areas		?	?

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Residents near restoration sites	Site specific presentation of AFB Coral Reef Restoration Project to the general public: ○ **Cousin Nature Reserve site -** Grand Anse on Praslin ○ **Curieuse Marine Park site -** Baie Ste Anne on Praslin ○ **Ste Anne Marine Park -** Roche Caiman, English River and Cascade on Mahe ○ **Anse Forbans reef -** Takamaka on Mahe	MEECC, Nature Seychelles, SNPA, MCSS	year 1 of project, middle of project and end of project	US $ 500 per town hall meeting (or get partner hotel to host)
	Publish periodic newspaper articles in local newspapers (Nation, Today etc.)		at least 1 article every 3 months	x
	Publish bi-annual newsletters with contributions from implementing agencies		every 6 months	US $ 2,000 per issue for design and printing

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Civil society organisations and women's groups	Presentation of AFB Coral Reef Restoration Project for community groups	MEECC, Nature Seychelles, SNPA, MCSS	year 1 of project, middle of project and end of project	US $ 1,000 per workshop
	Provide opportunities to involve interested individual/groups in hands-on restoration activities		at least 2 activities per year	US $ 500 per restoration activity

NOTE: In the budget, this can be combined with activities targeting residents in each project areas. Can also use partnerships with hotel for venue and refreshments.

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Teachers	Develop a marine education teacher's manual and activity book in collaboration with the eco-school coordination unit for primary schools	MEECC, Nature Seychelles, SNPA, MCSS	year 3 of project	US $ 2,000 to develop & design a manual
	Develop a marine education teacher's manual and activity book in collaboration with the eco-school coordination unit for secondary schools		year 3 of project	US $ 1,500 to print 100 copies of marine education teacher's manual
	Organise theoretical and practical training session for primary and secondary school teachers on Mahe, Praslin and La Digue in marine issues, climate change adaptation and coral restoration		Year 4 of project	US $ 2,000 per training workshop

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Primary school students	Organise age-appropriate hands on sessions with students, giving priority to the following: ○ **Cousin Nature Reserve site -** Grand Anse Primary school on Praslin ○ **Curieuse Marine Park site -** Baie Ste Anne Primary school and Vijay International School on Praslin ○ **Ste Anne Marine Park -** Roche Caiman Primary school, English River Primary school and Cascade Primary school on Mahe ○ **Anse Forbans reef -** Takamaka Primary school on Mahe	MEECC, Nature Seychelles, SNPA, MCSS	At least 2 activities per year at each site	US $ 1,000 per activity
	Collaborate with Wise Oceans to realise the marine holiday programme at Cap Ternay, and if feasible, expand to Praslin			US $ 2,000 to purchase equipment

NOTE: Activities will guide development of teacher's manual mentioned above.

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Secondary school students	Engage students during Professional Development (PD) sessions to raise awareness on Climate Change issues and adaptation measures	Nature Seychelles, SNPA, MCSS	At least 2 activities per year at each site	?
	Provide equal opportunities for boys and girls to participate in month-long internships during the school holidays		?	?
	Identify individual for 6 month internships and train up to Rescue Diver level, with the option for full time employment in the future		?	US $ 1,200 per person for complete PADI SCUBA training
	Develop a simplified coral reef and fish monitoring protocol for snorkelers (e.g similar to reef check) and engage students in basic monitoring activities		At least 2 activities per year at each site	US $ 1,500 to develop, design & print protocol. US $ 1,000 per activity

NOTE: Activities will guide development of teacher's manual mentioned above.

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Seychelles Maritime Academy (SMA)	Train SMA instructors in coral restoration techniques and Climate Change impacts and adaptation action	Nature Seychelles, SNPA, MCSS	?	?
	Incorporate coral restoration in the SMA diploma course		?	?
	Provide equal opportunities for boys and girls to benefit from month-long internships with each implementing agencies		?	?
	Provide training in basic coral and fish identification and monitoring techniques (possibly linking up with the GVI scholarship programme) and involve successful participants in monitoring changes at restoration sites		?	?
	Identify individuals for potential full-time employment in the future		?	?

NOTE: Insufficient information from SMA to expand on potential collaboration but they are eager to be involved. Need additional consultation when developing ProDoc.

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
University of Seychelles / Blue Economy Institute	Engage BSc and MSc in coral research projects	Nature Seychelles, SNPA, MCSS	?	?
	Present findings at national and regional conferences (e.g. WIOMSA)		?	?
	Provide equal work opportunities (and equal pay) to University graduates (men and women) under the project		?	?

NOTE: Insufficient information from UniSey/Beri to expand on potential collaboration. Need additional consultation when developing ProDoc.

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Environmental Youth Groups (Blue Economy Champions, Wildlife Clubs of Seychelles, SYAH, Eco-academia, Eco-school etc.)	Organise age-appropriate education and awareness activities as well as hands on sessions with environment youth groups, engaging non-diving volunteers in restoration effort (e.g. land-based nurseries) and where possible engaging diving volunteers in restoration effort (e.g. ocean-based nurseries, coral monitoring etc.)	Nature Seychelles, SNPA, MCSS	?	US $ 1,000 per activity
	Provide equal opportunities for boys and girls to participate in month-long internships with each implementing agencies during the school holidays		?	?
	Identify individual for 6 month internships and train up to Rescue Diver level, with the option for full time employment in the future		?	US $ 1,200 per person for complete PADI SCUBA training

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Environmental Youth Groups (Blue Economy Champions, Wildlife Clubs of Seychelles, SYAH, Eco-academia, Eco-school etc.)	Using the simplified coral reef and fish monitoring protocol for snorkelers (mentioned above) and engage youth in basic monitoring activities	Nature Seychelles, SNPA, MCSS	At least 2 activities per year at each site	US $ 1,000 per activity
	Provide training in basic coral and fish identification and monitoring techniques (possibly linking up with the GVI scholarship programme) and involve successful older participants (18yrs+) in monitoring changes at restoration sites.		?	US $ 1,000 per activity
	In collaboration with WCS, publish a marine themed magazine with emphasis on coral restoration		Year 4 of project	US $ 3,000 to develop & design WCS magazine & US $ 4,500 to print 500 copies

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Black Pearl Farm	Sign MoU with MEECC for Pearl farm to supply clams from brood stock to implementing partners	MEECC	Year 1 of project	US $ 30-40 per brood stock clam (25-30cm)
	Sign MoU with MEECC for Pearl farm to re-establish breeding programme and provide regular supply of clams to implementing partners		Throughout the project period	US $ xx re-establish clam breeding programme & US $ xx per clam from new stock (5-10cm)
	Asses the feasibility of setting up another farm for clams on Mahe	Nature Seychelles, SNPA, MCSS	?	?
	Develop translocation protocols and monitor survival rates of translocated clams at each of the restoration sites		Year 1 of project	?

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Non-violent prisoners	Organise education and awareness activities as well as hands on sessions with non-violent prisoners, engaging non-diving day release prisoners in restoration effort (e.g. land-based nurseries) and where possible engaging divers in restoration effort (e.g. ocean-based nurseries, coral monitoring etc.)	Nature Seychelles, SNPA, MCSS	?	?
	Identify individuals for potential employment upon release, and train up to Rescue Diver level		?	US $ 1,200 per person for complete PADI SCUBA training
	Provide equal work opportunities (and equal pay) to men and women under the project		?	?
	Provide training in basic coral and fish identification and monitoring techniques (possibly linking up with the GVI scholarship programme) and involve successful participants in monitoring activities		?	?

Community Development Plan (Seychelles)

Target Group	Activities	Lead Agency	Timeline	Budget
Orphanages on Mahe	Organise age-appropriate education and awareness activities as well as hands on sessions with environment youth groups, engaging non-diving volunteers in restoration effort (e.g. land-based nurseries)	Nature Seychelles, SNPA, MCSS	?	US $ 1,000 per activity
	Provide equal opportunities for boys and girls to participate in month-long internships with each implementing agencies during the school holidays		?	?
	Identify older individual for 6 month internships and train up to Rescue Diver level, with the option for full time employment in the future		?	US $ 1,200 per person for complete PADI SCUBA training
	Provide training in basic coral and fish identification and monitoring techniques (possibly linking up with the GVI scholarship programme) and involve successful participants in monitoring activities		?	?


AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future
QUESTIONS for Seychelles?
ADAPTATION FUND
UNDP
3rd Steering Committee meeting
Care House, Mahe, Seychelles, Seychelles
20th – 21st June 2017

AFB Project Formulation Grant
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

(June 2017)

GENDER & YOUTH ASSESSMENT & ACTION PLAN (SEYCHELLES)

Table of Contents

1.0 INTRODUCTION

This report analyses gender and youth issues in Seychelles, with the aim of proposing a Gender Action Plan to ensure that the Seychelles component of the Project Proposal to the Adaptation Fund Board (AFB) for "*Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future*" adequately takes into consideration said issues and, further, provides a framework to measure and track these issues throughout the life of the Project.

The report consists of six chapters, including this Introduction.

Chapter 2.0 describes the approach applied in the formulation of this report, consisting of a desk review and stakeholder consultation.

Chapter 3.0 provides an overview of Seychelles' achievements on gender issues and the significant steps taken by the country towards ensuring gender equality.

Chapter 4.0 provides an overview of Seychelles' achievements on youth issues and the significant steps taken by the country towards ensuring youth engagement.

Chapter 5.0 summarizes key challenges faced by the country regarding gender and youth in the following areas: i) constitutional and legal rights, ii) governance and political participation, iii) education and training, iv) health, violence against women and bullying, vi) productive resources, employment and economic empowerment and vii) climate change, sustainable development and disaster risk management.

Chapter 6.0 elaborates the gender and youth action plan for the Seychelles component of the AFB project proposal "*Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future*"

2.0 METHODOLOGY

This document was developed through a desk review of relevant literature and consultations with relevant stakeholders, either through individual exchanges or as groups in stakeholder workshops.

The documentation reviewed for the preparation of this report is listed as footnotes in Chapters 3.0, 4.0 and 5.0.

As part of the process of preparation of the AFB Project Proposal, the Community Development Specialist (Seychelles) of the Project Development Team consulted with representatives of two Non-Governmental Organisations (NGOs) focused on women's issues (Women In Action and Solidarity Organisation – WASO and Women In Partnership Against Poverty), as well as a

representative serving on the Gender, Rights and Governance Commission of the Citizens Engagement Platform Seychelles (CEPS), " presently the only national umbrella organisation for civil society in Seychelles."[1]

For youth issues, the specialist consulted representatives from the Seychelles National Youth Council (SNYC) and two NGOs led by youth which focus on Climate Change (SIDS Youth AIMS Hub-Seychelles) and raising awareness on the Sustainable Development Goals (Global Shapers) and the CEPS Youth Commissioner who oversees 17 registered youth groups, including the tow mentioned above.

In addition, the specialist conferred with two local consultants (Benjamin Vel and Craig Francourt) who regularly report on gender and youth issues at a National level and an international gender specialist (Jose Gabral).

The above consultations focused on gender and youth issues in Seychelles to determine ways of incorporating these issues, where relevant, into the AFB Project design. The principal recommendations resulting from these consultations were: the inclusion of sex and age-specific indicators in the Project's Logic Framework, the targeting of women-headed vulnerable households as beneficiaries, and the need for education and information activities, preferably with participation of NGOs and civil society groups, to ensure that potential participants and beneficiaries become aware of the Project. The AFB Coral Reef Restoration Project is responsive to these recommendations, as reflected in the Gender and Youth Action Plan in chapter 6 of this report.

In addition to the above, the Project Development Team held stakeholder workshops on the following dates: 8thMay 2017, 12th May 2017 and 20th to 21st June 2017. These workshops aim to report on progress made on the Project design since the concept note was approved by AFB in June 2016 and obtaining feedback and recommendations from key stakeholders to improve the Project. Stakeholders from the public, private and civil society sectors involved in marine conservation (specifically reef restoration) and climate change issues attended and participated actively in both workshops, including a significant participation of women, as well as youth.

The attendance sheets for stakeholder workshops are included as Annexes 1, 2 and 3

[1] Citizens Engagement Platform: Seychelles s*ubmission to the United Nations Universal Periodic Review*

3.0 PROGRESS TOWARDS GENDER EQUALITY IN SEYCHELLES

The Seychelles Constitution (1993)[2] declares the applicability of fundamental human rights and freedoms equally to women and men in its preamble and specifically in Chapter 3, termed the *Seychellois Charter of Fundamental Human Rights and Freedoms*.[3, 4] As per the Constitution: "*Every person has a right to equal protection of the law including the enjoyment of the rights and freedoms set out in this Charter without discrimination on any ground except as is necessary in a democratic society*."[5]

Gender equality is also established by other national laws, specifically the Civil Code (1976), the Commercial Code Act (1977) and the Status of Married Woman Act (1948), which establish that *"...women no matter what their civil status in terms of marriage or other legal unions may dispose of their movable and immovable assets and properties as they so choose, without intervention of trustees or needing consent of the husband*."[6]

Because of legal protections, overt institutionalised discrimination against women is not customary in the country.[7] This lack of open discrimination of women in Seychelles is also evident in the conservation sector where there is growing involvement of women in jobs, such as park rangers and researchers, which was once solely male-dominated.[8]

To a large extent, Seychelles has achieved Millennium Development Goal (MDG) 3, which focuses on the promotion of gender equality and empowerment of women.[9] For instance, Seychelles has made substantial progress in terms of the level of women presence in key decision-making roles in the Cabinet, National Assembly[10], judiciary, police, governing boards, national committees and business, and has surpassed the MDG target of 50% female representation in senior management positions at both the national and local government levels.[11, 12]

With regards to the Southern African Development Community (SADC) Protocol on Gender and Development, Seychelles has achieved four of the provisions of the Protocol (1. equal pay for equal work and equal remuneration for work of equal value, 2. recognition of value of agricultural

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[2] www.greybook.seylii.org/w/se/CAP42

[3] Republic of Seychelles. Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 8.

[4] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, pp. 38-39.

[5] Republic of Seychelles. Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 8.

[6] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, p. 39.

[7] Republic of Seychelles. Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 11.

[8] This information is based on personal communication with the CEO of the Seychelles National Parks Authority (SNPA) – 3 of the 20 rangers they currently employ are women while the Research Unit is dominated by women (5 women: 1 man).

[9] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, p. 9.

[10] Unfortunately, since the MDG report was released, the National Assembly women representation went down from 44% to 21% during the 2016 election due to a reduction in the number of female candidates in relation to previous elections, as well as less women candidates being elected.

[11] Republic of Seychelles. Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 12.

[12] Executive Board of UNDP, UNPF and UNOPS (2016) *Draft Country Programme Document for Seychelles (2017-2020)*, p. 2.

and domestic work, 3. appropriate minimum remuneration for agricultural and domestic work, and 4. equal employment benefits), largely achieved a fifth provision (equal access to wage employment) and has enacted appropriate laws and regulations that ensure compliance with three other provisions (1. prohibition of occupational segregation and discrimination at work, 2. legislative measures prohibiting dismissal or denial of recruitment on basis of pregnancy or maternity leave, and 3. protection and benefits for maternity and paternity leaves).[13]

Seychelles is a signatory to eight core International Human Rights Treaties and five main Optional Protocols. The key international instruments with gender-relevant content are the following:

1. Southern African Development Community (SADC) Protocol on Gender and Development.
2. Convention on the Elimination of all Forms of Discrimination against Women.
3. Optional Protocol to the Convention on the Elimination of All Forms of Discrimination against Women.
4. Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (Maputo Protocol).
5. Common Market for Eastern and Southern Africa (COMESA) Gender Policy and the Addis Ababa Declaration on Gender.
6. Beijing Platform for Action, signed in the framework of the United Nations Fourth World Conference on Women.
7. International Covenant on Civil and Political Rights.
8. International Covenant on Economic, Social and Cultural Rights.
9. Convention on the Rights of the Child.
10. Optional Protocol to the Convention on the Rights of the Child on Sale of Children, Prostitution and Pornography.

Seychelles launched its Gender Policy on the 25th November 2016. This is in line with provisions of the SADC Protocol on Gender and Development and follows the orientations on gender mainstreaming issued by the SADC Secretariat, the Commonwealth Secretariat and the United Nations.[14]

4.0 PROGRESS TOWARDS YOUTH ENGAGEMENT IN SEYCHELLES

Chapter 3 of the Seychelles Constitution (1993), entitled the *Seychellois Charter of Fundamental Human Rights and Freedoms*, and in Article 30 specifically, recognises that "*The State recognises the right of children and young persons to special protection in view of their immaturity and vulnerability*…" Therefore, children and youth have some special consideration as citizens which also lends them special protection from social, economic, moral and physical exploitation. This is

[13] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, pp. 36-37.

[14] Republic of Seychelles. Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 8.

further reinforced by several international conventions and treaties, national legislation and policies.

The Seychelles is a signatory to the United Convention on the Rights of the Child, the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights. All these conventions provide for protection and fulfilment of rights which include citizens who are children, youth and adults, as the specific case may be.

Nationally, the Children Act 1982 (consolidated with subsequent amendments to July 2016)[15] makes provision to ensure that children up to the age of 17 years, the age of maturity being 18 years, are given all the protection they need in society, especially to prevent any form of abuse and exploitation. These provisions are important when there are disputes in terms of custody, maintenance, access, adoption, fostering and any other decisions that can have a major impact on the future of the child.

The Education Act 2004 (consolidated with subsequent amendments to July 2012)[16] stipulates, in Part 4, Section 43, the rights and responsibilities of children and their parents. These include the right to quality education and choice in education. The Act covers all primary and secondary state and private schools and educational institutions. It also outlines the obligations and rights of teachers and educational institutions. Other laws cover tertiary education, university and non-university (professional centres).

The Seychelles National Youth Council Act (Act 15 of 1997) establishes a Seychelles National Youth Council (SNYC) whose primary roles are, amongst others, to "*assist in the formulation and revision of the national youth policies… Offer a medium of regular dialogue between the youth and Government on matters pertaining to youth*."[17] Moreover, as its vision is to:"… *empowers (sic) the youth to be responsible, self-motivated and willing to contribute to their own wellbeing and that of Seychelles,*" [18] its mission is to ensure that it provides equal opportunities to all youths (defined as young persons aged from 15 to 30 years) to fully develop physically, artistically, spiritually, educationally and morally through empowerment, participation, programmes, and advocacy of youth interests at national and international level."

The National Youth Policy 2013-2017 which came into force in September 2013 was compiled following numerous consultations over several months with government agencies, civil society organisations and youth representatives from Mahé, Praslin and La Digue. The goal of the Policy is to provide "… *an appropriate framework to enhance the aptitude of the youth, properly address their needs and offer appropriate services, opportunities and support for their holistic development.*"[19]

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[15] http://greybook.seylii.org/w/se/CAP28#!fragment//KGhhc2g6KGNodW5rxIVhbsSHb3JUZXh0OicnKSxub3Rlc1F1ZXJ5xJYnLHNjcm9sbEPEiMSKOiFuxKdlYXLEh8SgxKLEpMSXxLTEtsSHU8SQdELEpFJFTEVWQU5DRSx0YWI6dG9jKSk=

[16] Republic of Seychelles (2004) Education Act

[17] http://www.snyc.info/test/

[18] http://www.nation.sc/article.html?id=251754

[19] Republic of Seychelles, Seychelles National Youth Council (2013) *Seychelles National Youth Policy* p.8

In terms of programmatic actions, there have been several initiatives to support the implementation of youth-related policy objectives. The National Youth Policy Forum is a multi-sectorial working group whose primary role is to provide advice and make recommendations to ensure the youth policy objectives in key areas are effectively fulfilled, namely in education and training, economic participation, health and well-being, social ills, promotion of youth empowerment and moral values.

Conversely, the Seychelles National Youth Assembly (SNYA)[20], launched in 2003, is an educational forum, which aims at providing its members with the opportunity to nurture their knowledge and learning, as well as enabling them to develop their search and speaking skills. It is meant to be a non-political forum.

A number of non-state initiatives have also been launched to engage the youth more meaningfully in programmes of national importance, especially in environment conservation and protection. A Seychelles Chapter of a regional network of young people in Small Island Development States (SIDS) in the Atlantic, Indian Ocean, Mediterranean, and South China Sea (AIMS) is a youth-led NGO promoting and advancing youth-led sustainable development projects.[21] It has conducted several activities to encourage the involvement of young people in the Blue Economy, such as internship in the Blue Economy Department and work attachment in Mauritius.

According to the Seychelles Sustainable Development Strategy (2012-2020), Government has shown commitment to Education for Sustainability (EfS) programmes, with the most active stakeholders in the sector being the Department of Environment and the Ministry of Education. While NGOs like Nature Seychelles and Wildlife Clubs of Seychelles (WCS) have traditionally been active, over the past few years more environmental NGOs have become established and most have Environmental Education (EE) programs which they implement in coordination with other partners like schools, the media, youth networks (Care clubs, young citizens, Scouts), faith-based groups, community environment clubs, and hotels.[22]

5.0 KEY CHALLENGES IN RELATION TO GENDER AND YOUTH

Despite the tremendous progress made by Seychelles in gender equality and youth engagement reported in the previous two chapters, the country faces some challenges. This chapter discusses the key challenges in the following areas: i) constitutional and legal rights, ii) governance and political participation, iii) education and training, iv) health, violence against women and bullying, vi) productive resources, employment and economic empowerment and vii) climate change, sustainable development and disaster risk management.

[20] http://www.snyc.info/snya/
[21] http://syah-seychelles.weebly.com/about.html
[22] Republic of Seychelles, Department of Environment (2012) *Seychelles Sustainable Development Strategy (2012-2020)*, volume 2, p. 261.

Please note that these categories listed below are not exhaustive, but represent areas where sufficient data was available to report on.

5.1 Constitutional and Legal Rights

Although open discrimination against women is not evident in Seychelles, there are inconsistencies between stipulations of international and regional instruments dealing with gender issues and national criminal law, specifically shortcomings in the fair enforcement of criminal law as is evident in some of "*… the outcomes of legal matters such as rape and domestic violence cases*". This highlights the need for gender-sensitive training of public officials in the criminal system (judges, magistrates, tribunal members, lawyers, police officers, etc.).

There are numerous challenges for youth in terms of their access to sexual and reproductive health rights as well as discriminatory laws for employment, marriage, the age of consent for sex and gender identity and expression. With regards to sexual and reproductive health rights, the age of consent for sex is 15 years, but it is difficult to have access to contraceptives, except condoms before the age of 18 years without the consent of the parents. Usually, this situation is circumvented by medical personnel who place the best interest of the child in terms of their physical and mental wellbeing first and that allows them to take appropriate actions as necessary. However, this is also done largely on a personal basis rather than an established protocol from the Ministry of Health.

While the Constitution (Chapter 3, Article 31(a)) allows young people to work at the age of 15 years and the Employment Act of 1995[23] with amendments makes provision for minors entering binding contracts (Section 20) and for non-discriminatory behaviour (Part VI, 46A) on basis of "*age, gender, race, colour, nationality, language, religion, disability, HIV status, sexual orientation or political, trade union or other association*" there is no guarantee that the child will be treated fairly and according to the law by the employers. The child would simply leave the position and seek employment elsewhere, without necessarily reporting mistreatment to the relevant authorities.

There is still confusion about gender differences in the law regarding marriage as minors requiring the consent of parents. Both boys and girls cannot marry unless they are 18 years of age and thus at the legal age of maturity. Presently, in Seychelles, same-sex marriages are not legal. This constitutes discrimination against sexual minorities, despite the repeal of Penal Code Section 151 in 2016 which stipulated that sodomy was illegal.

[23] Republic of Seychelles (1995) *Employment Act 1995*

5.2 Governance and Political Participation

Women representation in the public decision-making arena is substantial yet the main challenge is in the private sector, where a relatively recent survey showed that there was only one female holding both the Chief Executive Officer and Director positions among the eight largest and most profitable private companies in Seychelles.[24]

Young people are involved in governance and political participation either through their affiliation with the various parties' youth groups or the Seychelles National Youth Assembly or their actions in civil society groups which are engaged in civil and political work. For now, the participation is still partisan and there is little effort to ensure that there is a group that brings youth together nationally and without partisan political influence. More youth groups and youth-focused NGOs are involved in morality work through specific religious denomination affiliations.

5.3 Education and Training

In line with Article 33 of the Constitution of Seychelles[25], boys and girls have equal access to 11 years of free and compulsory schooling. The enrolment rate and primary school completion rate is nearly 100% for both sexes[26] yet the quality of educational outcomes continue to be an issue in Seychelles with low national examination results, with consistently low averages (<50%) in all subjects resulting in a significant number of functional illiterate school leavers.[27]

For those who make it to tertiary education institutions, both non-university and university, enrollment data show that more males attend trades and technological institutions (carpentry, masonry, electronics) and maritime studies institutions (marine biology, seamanship, navigation), while more females are enrolled in institutions focusing on human services (health, social work, business administration and management, and tourism). While gender stereotypes still prevail in tertiary vocational and technical education, this situation is gradually changing.[28]

5.4 Health, Violence Against Women and Bullying

The Ministry of Health has a dedicated programme of family health which encompasses the following programmes: expanded programme on immunisation, child health, school health, youth health, reproductive health, men's health, antenatal and postnatal programmes and the Early Childhood Intervention Centre.[29] However, there are still challenges for groups of women and girls to access services for sexual and reproductive health. Girls who are minors and sexually

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[24] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, p. 40.
[25] http://greybook.seylii.org/w/se/CAP42
[26] Republic of Seychelles, Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 13.
[27] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, p. 31.
[28] Republic of Seychelles, Ministry of Education (2015) *Education Statistical Booklet 2014*.
[29] Republic of Seychelles, Ministry of Foreign Affairs and UNDP (2015) *Seychelles Millennium Development Goals Status Report 2015*, p. 45.

active and Female Sex Workers (FSW), while in theory should access services easily enough, experience judgemental attitudes and discriminatory behaviours from some medical and health professionals. In fact, the recent Integrated Behavioural and Biological Surveillance Survey (IBBS) on Female Sex Workers (FSW) showed that 25% of FSW who experience a symptom of a sexually transmitted disease would not seek treatment.[30]

Both sexes experience violence. However, women and girls are disproportionately represented in all types of violence by a ratio of more than 1:12[31], except for physical violence towards boys. In 2015, there were 91 reported cases of physical abuse of minors; 45 cases were males and 46 were females. Men may underreport situations of gender-based violence as it is still taboo to experience such in Seychellois society. Nevertheless, the situation is serious enough that the Department of Social Affairs and the Ministry of Education have collaborated with tertiary non-university institutions to develop a Gender-Based Violence Curriculum for the students as part of their prevention programmes.[32]

Vulnerable women such as FSW and men such as People Who Use Drugs (PUDs) or People Who Inject Drugs (PWID) report experiencing violence. Thirty-seven percent of FSW had experienced violence in the past year, whereas 21% had been forced to have sex against their will.[33] The same report also indicated that "… *physical violence was most likely to be suffered at the hands of the steady boyfriend or the husband (20 or 34.5%), the one-time client (9 or 15.5%) and the police (8 or 13.8%). Respondents were just as likely to be assaulted by unknown persons as they were by the police*."[34] As for PUD and PWID, an IBBS conducted in 2011 showed similar results with 68% reporting verbal insults and 2% reporting being hit, kicked or beaten in the past 12 months, especially when someone believed the respondents had had sex with other men.[35] In terms of sexual violence, 83% reported being forced to have sexual intercourse in the past 12 months.[36] Fifty-four percent of Men having Sex with Men (MSM) reported being arrested in the past 12 months. It is important to note that the respondents for this study were mostly young (aged from 18 to 34 years: 78%) and male (80%).

5.5 Productive Resources, Employment and Economic Empowerment

There are gender disparities in management in the private sector, with an overwhelming presence of males on boards of directors and as chairpersons of large private firms. Women operate mostly small and medium enterprises, especially cottage industries.

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[30] Republic of Seychelles, Ministry of Health (2016) *The Integrated Behavioural and Biological Survey of Female Sex Workers p.47.*

[31] Republic of Seychelles, Department of Social Affairs (2017) *Gender-Based Violence Curriculum: A New Approach for Post-Secondary Institutions* p. 29-30

[32] Ibid.

[33] Republic of Seychelles, Ministry of Health (2016) *The Integrated Behavioural and Biological Survey of Female Sex Workers* p. 55

[34] Ibid; p. 55

[35] Republic of Seychelles, Ministry of Health (2012) *Injection Drug Use in the Seychelles, 2011: Integrated Biological and Behavioral Surveillance Survey - Round I* p.53

[36] Ibid., p.53

In terms of employment, the most recent survey available[37] shows only a 2.8% disparity in favour of the number of employed men over women. There are wage gaps between men and women, with the former earning higher salaries. In addition, there appears to be some gender stereotyping in the workplace, with more women holding jobs in the health and education sectors, as compared to the male dominated jobs, such as economic planning, banking and engineering.[38]

With regards to youth unemployment, this is reported 2.7 times higher than the overall unemployment rate in Seychelles with the female youth rate 3.2 times higher and the male youth rate 2.2 times higher than their corresponding national rates. [39]

However, women with children face particular difficulties when they are engaged in shift work. They worried about the welfare of their children during their absence and some even left them with other siblings as young as 14 years of age.[40] These issues need to be taken into consideration when any project or programme want to engage employed women and girls in their activities.

In 2014, the Seychelles had the unenviable distinction of having the highest incarceration rate in the world, with 799 per 100,000 population.[41] This situation was a significant departure from the norm of some 100 inmates in the only prison in the country - Long Island Prison, which had a high-security wing. In 2017, there are now five main facilities: Montage Posée Prison on the island of Mahé, the facility housing drug traffickers on Marie-Louise Island, the prison on Coetivy Island for drug offenders, the holding cells for remanded prisoners awaiting trial and the wing built by the UNODC in 2012 to house the Somali pirates. "*In previous years, the female prison could stand empty for years, with no prisoner or one or two at a time. Presently, at Montage Posée Prison, there are more than 25 female inmates whose main offences are linked to drug possession and importation*."[42] The ratio of female to male inmates varies from 1:14 to 1:25.[43]

5.6 Climate Change, Sustainable Development and Disaster Risk Management

It has become increasingly clear that the societal roles and responsibilities of men and women have an important influence on how they experience and respond to climate change impacts. Like most African countries, Seychellois women have the largest share of responsibility for child caring, house cleaning and cooking. This means that when epidemics and natural disasters strike, women tend to bear a larger burden of the share of the adaptation to the consequences of these phenomena. As such, it is important to identify gender sensitive strategies to respond to the environmental and humanitarian crises caused by climate change. It is also important to note the

[37] Republic of Seychelles, National Statistics Bureau (2013) *Labour Force Survey 2011-2012*.
[38] Citizens Engagement Platform, Seychelles (2015) *Draft Universal Periodic Review Report*.
[39] Republic of Seychelles, National Statistics Bureau (2013) *Labour Force Survey 2011-2012*, p.21
[40] Vel, B. and Larue, J. (2015) *Establishing the Social, Health and Economic Effects of Shift Work on Women in Seychelles* p.38 Seychelles Women Trust Fund, Republic of Seychelles
[41] https://en.wikipedia.org/wiki/List_of_countries_by_incarceration_rate#Seychelles
[42] Republic of Seychelles, Department of Social Affairs (2016) *The social, economic and psychological causes or factors of recidivism amongst Seychellois prisoners: Final Report* p.5
[43] Ibid, p. 9

role that women have as agents of change and the strong body of knowledge and expertise they possess that can be used in climate change mitigation, disaster reduction and adaptation strategies.

The Seychelles' Gender Policy notes that "*The key climate change related strategies and available research data are gender blind. Gender specific impacts of climate change in energy, water, food security, and disaster management are absent or not sufficiently analysed. Sex-disaggregated data is required to guide the development of targeted responses. There is a need to identify key populations at higher risk of climate change impacts and an urgent need to analyse their vulnerabilities. The role of women as change agents needs to be recognised and targeted*"[44]. The Seychelles Sustainable Development Strategy 2012-2020,[45] also calls for gender-specific research and gender mainstreaming in its "*Human and Social Development Pillar*".

The National Youth Policy 2013-2017 presents a rudimentary information on environment noting that the youth have the right to a clean environment and ensuring that the youth contributes to it.[46] However, there are various civil society groups that are engaging young people in environment protection, conservation and education such as the Wild Life Clubs based in schools, Seychelles Youth AIMS Hub (SYAH) and Seychelles Heritage Clubs also based in schools, which combine environment and natural heritage sites protection.

The AFB Coral Reef Restoration Project will contribute to filling the noted gaps in sex-disaggregated data in line with the provisions of the Adaptation Fund gender Policy (Annex 4 to Operational Policies and Guidelines for Parties), the United Nations 2017-2020 Country Programme Document for Seychelles,[47] as well as with the advancement of Objective 3.4.5 of the Gender Policy ("Ensure the generation of sex-disaggregated data") by including specific indicators for this area in the Logic Framework, and the Monitoring and Evaluation Plan for the Project. A separate report is being prepared for the Gender Action Plan and will provide details for these indicators.

The AFB Project will also help to ensure that young people are more meaningfully engaged in national development priorities that are linked to socioeconomic sustainability based on sound management of the environmental assets. It is important to have sex-disaggregated data as well as level, type and location of youth participation in various programmatic actions to assess whether they have been meaningfully involved in the Project. To this end, the links with the stipulations of the National Youth Policy 2013-2017, the work of the National Youth Assembly and various youth NGOs will be essential components of the Project.

[44] Republic of Seychelles. Ministry of Social Development and Culture (2016) *The National Gender Policy*, p. 17
[45] Republic of Seychelles. Department of Environment (2012) *Seychelles Sustainable Development Strategy 2012-2020*.
[46] Republic of Seychelles, Seychelles National Youth Council (2013) *Seychelles National Youth Policy* p.10; p.13
[47] Executive Board of UNDP, UNPF and UNOPS (2016) *Draft Country Programme Document for Seychelles (2017-2020)*.

6.0 GENDER & YOUTH ACTION PLAN

This section of the report proposes a Gender and Youth Action Plan based on the findings of the above Gender and Youth Assessment for Seychelles. The aim is to ensure that the Seychelles component of the project proposal to the Adaptation Fund Board (AFB) for "*Restoring Marine Ecosystem Services by Rehabilitating Coral Reefs to Meet a Changing Climate Future*" adequately takes into consideration gender and youth issues. It provides suggested entry points for gender- and youth-responsive actions to be taken under each of the activity areas of the Project. In addition, the Gender & Youth Action Plan includes specific indicators to measure and track progress on these actions at the activity level. The ultimate goal is to incorporate these indicators into the detailed Monitoring and Evaluation Plan that will be developed at the start of Project implementation, so as to ensure that gender and youth data are collected and measured throughout implementation.

Project Component / Objective	Actions / Strategy	Performance / Target Indicators	Responsible entity
Overall project planning and implementation			
Engage women, youth and other vulnerable groups in project planning and implementation	• Using an adaptive management approach, develop a Community Development Plan • Ensure women and youth are included consultations prior to and during project implementation to ensure that they receive sufficient information about the project and create opportunities for them to voice their views on the project • Ensure appropriate social inclusion in decision-making • As needed, provide training on gender equality to agencies engaged with the project to improve their understanding of gender concerns and increase their capacity to implement the Project's gender action plan • Equal work opportunities (and equal pay) will be provided to men and women under the project • The MEECC-PCU and/or UNDP Seychelles will be responsible for monitoring and review of the above set targets for women and youth as per AFB reporting schedule	• Community Development Plan completed at the start of the project and reviewed periodically • At least 40% women and 20% youth represented in consultation forums • At least 20% women and 10% youth on the project steering committee • Number of women's groups, youth groups and other vulnerable groups consulted during project implementation • Number of training sessions with organised • At least 30% women and 20% youth participation in training • Number of men and women involved in project activities • Gender & age disaggregated attendance lists for all project activities	Ministry of Environment, Energy and Climate Change - Programme Coordination Unit of the (MEECC - PCU), UNDP Seychelles

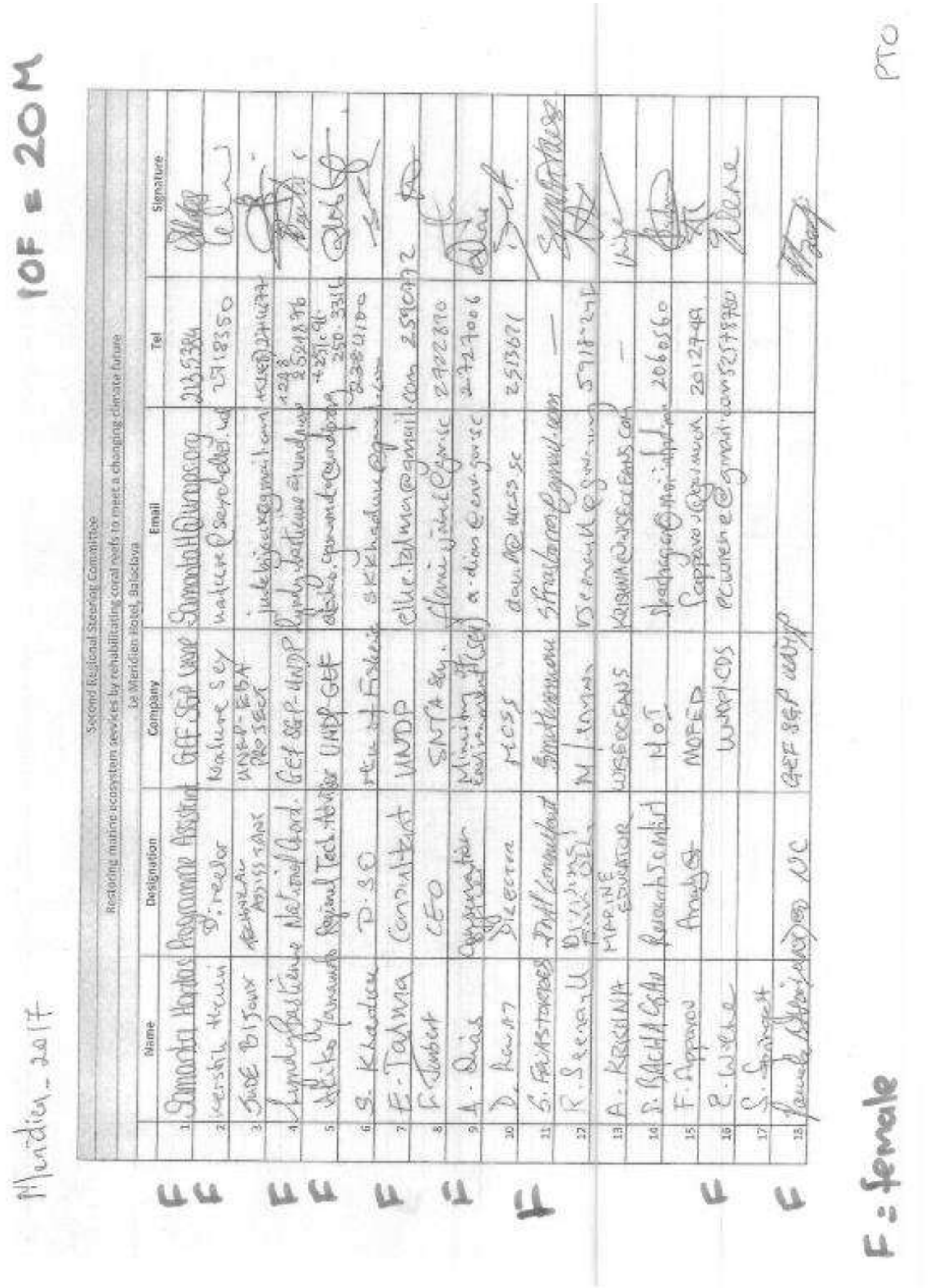
Project Component / Objective	Actions / Strategy	Performance / Target Indicators	Responsible entity
COMPONENT 2 (SEYCHELLES): To improve food security and livelihoods and mitigate disaster risk through active restoration of coral reefs degraded by coral bleaching as a result of climate change in Seychelles, in order to restore their essential ecosystem services			
2.1 Development of a sustainable partnership and business approach to reef restoration	• Local communities and businesses entrepreneurs benefit from improved livelihoods through employment including but not limited to reef restoration, sea scaping, marketing etc. • Community consultations are carried during the first 6 months of the project with special consideration given to women, youth and vulnerable groups	• Number of partnership agreements signed with private sector and community groups • Number of men, women and youth employed • Number of community consultation meetings • Number of women's groups, youth groups and other vulnerable groups consulted	Nature Seychelles (lead) & collaboration with SNPA, MCSS and MEECC
2.2 Establishment of coral farming and nursery facilities	• Selection of nursery sites • Establish legal status for nursery sites and transplantation areas outside existing protected areas	• Site specific stakeholder analysis completed once nursery sites and translocation sites finalised • Number of men, women, youth and vulnerable groups consulted in site selection	Nature Seychelles (lead) & collaboration with SNPA, MCSS and MEECC
2.3 Active restoration of degraded reefs, with maintenance and monitoring of survival and growth rates of transplanted corals	• Active restoration of degraded reefs provides equal opportunities for men, women and youth	• Number of men, women and youth trained up to Rescue SCUBA diver level • Number of men, women and youth trained in restoration techniques • Number of men, women and youth actively engaged in restoration effort	Nature Seychelles (lead) & collaboration with SNPA, MCSS and MEECC

Project Component / Objective	Actions / Strategy	Performance / Target Indicators	Responsible entity
2.3 Active restoration (cont..)	• Monitoring of survival and bleaching of natural, donor and transplanted colonies before, during and after restoration actions	• Number of men, women and youth trained in monitoring techniques • Number of men, women and youth engaged in monitoring effort	Nature Seychelles (lead) & collaboration with SNPA, MCSS and MEECC
	• Reproduction and recruitment surveys at restored reefs	• Number of men, women and youth trained in monitoring techniques • Number of men, women and youth engaged in monitoring effort	
	• Publication of scientific manuscripts	• Number of men, women and youth co-authoring scientific manuscripts	
COMPONENT 3 (SEYCHELLES & MAURITIUS): To generate knowledge and understanding about the use of coral restoration as an adaptation measure for dissemination to other SIDS and countries within the wider region, and to build capacity for this intervention in the Western Indian Ocean, 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.			
3.1 Improved understanding and knowledge management of use of reef restoration as an adaptation measure	• Ensure that all coral reef restoration efforts are science-based	• Number of men, women and youth co-authoring scientific papers, reviewing and analysing coral restoration efforts in the region and globally • Number of men, women and youth co-authoring scientific paper on site selection criteria developed for nursery, transplantation sites and coral propagation	Nature Seychelles (lead) & collaboration with SNPA, MCSS and MEECC
Project Component / Objective	**Actions / Strategy**	**Performance / Target Indicators**	**Responsible entity**
Lessons learned regionally and globally on methods and approaches to sustainable reef restoration are disseminated	• Improved understanding of coral reef restoration for the Western Indian Ocean region	• Number of men, women and youth participating in regional workshops and exchanges	Nature Seychelles (lead) & collaboration with SNPA, MCSS and MEECC

		• Number of scientific papers, broadcast media, social media reports produced by men, women and youth	
	• Improved understanding of community based coral reef restoration	• Community coral reef restoration guidelines produced in consultation with men, women and youth • Number of community workshops organised to disseminate lessons learnt	
	• Streamline process of coral reef restoration procedures	• Number of men, women and youth involved in developing the Reef Restoration Toolkit and manual • Number of Reef Restoration Toolkits and manuals disseminated to men, women and youth • Number of community workshops organised to disseminate lessons learnt	
Project Component / Objective	**Actions / Strategy**	**Performance / Target Indicators**	**Responsible entity**
Training to build capacity for sustainable coral reef restoration	• Design and implementation of 2-week training programs (Training for Trainers Program) on coral reef restoration	• Number of training programs conducted per year • Number of men, women and youth certified as Trainers in Coral Reef Restoration	Nature Seychelles leads training, SNPA & MCSS supports community based – restoration & NGO training
	• Design and implementation of 2-week training programs (Basic Program) in coral reef restoration	• Number of training programs conducted per year • Number of men, women and youth certified as Practitioners in Coral Reef Restoration	
	• Training of key members from main regional stakeholders	• Number of local and regional stakeholder groups trained	

Annex 1

Attendance list for the 2nd Steering Committee Meeting held in Mauritius (8th May 2017)



Meridien_2017 — 10F = 20M

Second Regional Steering Committee

Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

Le Meridien Hotel, Balaclava

		Name	Designation	Company	Email	Tel	Signature
F	1	Samantha Hardas	Programme Assistant	GEF SGP UNDP	SamantaH@unops.org	213.5384	[signature]
F	2	Kerstin Henri	Director	Nature Sey	nature@seychelles.net	2718350	[signature]
	3	Jude Bijoux	Technical Assistant	UNEP-EBA Project	judebijoux@gmail.com	+(248) 2714677	[signature]
F	4	Lyndy Bastienne	National Coord.	GEF SGP-UNDP	lyndy.bastienne@undp.org	+248 2521896	[signature]
F	5	Akiko Yamamoto	Regional Tech. Advisor	UNDP-GEF	akiko.yamamoto@undp.org	+251-91-250-3314	[signature]
	6	S. Khadun	D.S.O	Min of Fisheries	skkhadun@gmail.com	2384100	[signature]
F	7	E. Talma	Consultant	UNDP	ellie.talma@gmail.com	2590772	[signature]
	8	F. Joubert	CEO	SNTA Sey.	flavien.joubert@gov.sc	2722890	[signature]
F	9	A. Dias	Conservation Officer	Ministry of Environment (SEY)	a.dias@env.gov.sc	2727006	[signature]
	10	D. Rowat	Director	MCSS	david@mcss.sc	2513671	[signature]
F	11	S. Fraistonbes	Intl Consultant	Smithsonian	sfraistonbes@gmail.com	—	[signature]
	12	R. Seenault	Divisional Fish. Off.	M/Ocean	rseenault@govmu.org	5918-24[illegible]	[signature]
	13	A. Krishna	Marine Educator	Wiseoceans	krishna@wiseoceans.com	—	[signature]
	14	S. Bachaggoo	Research Scientist	MOI	sbachaggoo@moi.intnet.mu	2060560	[signature]
	15	F. Apparoo	Analyst	MOFED	fapparoo@govmu.org	2012749	[signature]
F	16	E. Wirtz		UNDP/CDS	ewirtz@gmail.com	52578780	[signature]
	17	S. Springett					
F	18	Pamela [illegible]	NC	GEF SGP UNDP			[signature]

F: female

PTO

Second Regional Steering Committee

Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

Le Meridien Hotel, Balaclava

	Name	Designation	Company	Email	Tel	Signature
1	Dr Y. Mahud	ABS	MOI	ymahud@moi.intnet.mu	2060580	[signature]
2	Dr. B. Dunnur-Nagloo	ARS	"	ddunnur@moi.intnet.mu	"	[signature]
3	P. Mussai	RS	MOI	pmussai@moi.intnet.mu	"	[signature]
4	V. Ramchandur	RS	MOI	vramchandur@moi.intnet.mu	"	[signature]
5	N. Pavee...	Technical officer	Ocean Economy	nbheemul@govmu.org	2384103	[signature]
6	N. Sooprun	Environment officer	MIENV&SD	nsooprun@govmu.org	5918924	[signature]
7	S. Ramah	Technical officer	M. Ocean Economy	sramah@govmu.org	2384100	[signature]
8	V. Munbodhe	Scientific Officer	Min Ocean Economy	vmunbodhe@govmu.org / ...	2384100	[signature]
9	S. Khudoo	Programme Assistant	UNDP	sameer.khudoo@undp.org	2075431	[signature]
10	K. Beedassee	Project Assistant	"	"		
11	R. Alcindor	Manager	"		"	
12	S. Ramburn	Programme Officer	"		"	
13						
14						
15						
16						
17						
18						

F

F = female

Annex 2

Attendance list for the 1st Stakeholder Workshop held in Seychelles (12th May 2017)

8F : 9M

AFB PROJECT PROPOSAL GRANT : STAKEHOLDER CONSULTATION

SFA TRAINING ROOM - 12th May 2017

	NAME	ORGANIZATION	EMAIL/PHONE	SIGNATURE
F	Chloé Pozas Schacre	Marine Conservation Society Seychelles	chloe-pozas@hotmail.fr 25 00 756	
	Andrew Grieser Johns	PCU	2582965	
	David Rowat	MCSS	david@mcss[illegible]	
	Chris Mason-Parker	GVI	seychelles[illegible]	
F	Kerstin Henri	Nature Sez	nature@seychelles.net	
	Ben Taylor	WISEOCEANS	Ben@wiseoceans.com 2766926	
F	Georgina Beresford	WiseOceans	georgina@wiseoceans.com 2853267	
	Jude Bijoux	UNEP-EBA	judebijoux@gmail.com [illegible]	
F	Frances A Benstrong	A level student. Blue Economy Champion	[illegible]	
F	Dr. Sarah Frias-Torres	Smithsonian Institution	sfriastorres@gmail.com	
F	Elke Talma	CONSULTANT	elke.talma@gmail.com	
F	Preethi Nair	UNDP	preethi.nair@undp	
	PS Decommarmond	MEECC		
	Savi Leblond	MCSS / CEOP	[illegible]	
	Kevin Mounou	MEECC	[illegible].gov.sc	
F	Isabelle Ravinia	SNPA	iravinia@[illegible]	
	Flavien Joubert	SNPA	flavienjoubert@[illegible]	

F = female

Annex 3

Attendance list for the 3rd Steering Committee Meeting held in Seychelles (20th -21st June 2017)

ADAPTATION FUND

UNDP

AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs
to meet a changing climate future

CARE HOUSE

20-21st June 2017

SNO	NAME	SIGN 20 June	SIGN 21 June
1 CICC/MCD	Savi72011@gmail.com Savinien Leblond (MCSS)		
F 2.	Akiko Yamamoto		
3.	NIRMAL SHAH		
F 4.	Kerstin Henri		
5.	Fabiani Appavou		
6.	BACHA GIAN SURAJ		
7.	S. Khadun		
F 8.	Ms Annouchka RAMCHARRUN		
F 9.	Emilie C. Wiehe		
F 10.	SARAH FRIAS-TORRES		

ADAPTATION FUND

AFB Project Formulation Grant –
Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future

CARE HOUSE

20-21st June 2017

SNO	NAME	SIGN	
		20 June	21 June
11	S. Ramchura UNDP.		
12	Ashley Dias MEECC		
13	ALAIN DE COMARMOND - MEECC, Secretaire Principal		
14	JUDE BIJOUX - Consultant, NGO ANBA LAO		
15	Isabelle Ravinia (SNPA)		
16	BEN TAYLOR WISEOCEANS		
17	Roland Alcindor. UNDP		
18	Elke Talma. Consultant		
19.	Lyndy Pascoe - SGP-UNDP-Sey.		
	~~[illegible] METEOR~~		

Annex 11

Terms of Reference for Project Staff /Consultants

Key Terms of Reference

Included herein:

- Regional Project Manager (RPM)
- Project Assistant (PA)
- Financial Assistant (FA)
- Chief Technical Advisor (CTA)
- Project Gender Officers
- Project Steering Committee (PSC)
- Project National Coordination Committee (PNCC)
- Regional Scientific Advisory Committee (RSAC)

1. Regional Project Manager (RPM)

Background

The Regional Project Manager (RPM) will be locally recruited based on an open competitive process. He/She will be responsible for the overall day-to-day management of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors. The RPM will report to the UNDP-CO, in close consultation with the host institution for all the project's substantive and administrative issues. From the strategic point of view of the project, the RPM will report on a periodic basis to the Project Steering Committees (PSC) at the regional level and to the Project National Coordinating Committees (PNCC) at the national level. Generally, the RPM will be responsible for meeting government obligations of the two countries under the project, under the Direct Implementing (DIM) Modality. He/She will perform a liaison role with the Government, UNDP and other UN Agencies, NGOs and project partners, and maintain close collaboration with any donor agencies providing co-financing.

Duties and Responsibilities

- Supervise and coordinate the production of project outputs, as per the project document;
- Mobilize all project inputs in accordance with UNDP procedures for nationally executed projects;
- Supervise and coordinate the work of all project staff, consultants and sub-contractors;
- Coordinate the recruitment and selection of project personnel;
- Prepare and revise project work and financial plans, as required by UNDP;
- Liaise with UNDP, relevant government agencies, and all project partners, including donor organizations and NGOs for effective coordination of all project activities; Facilitate administrative backstopping to subcontractors and training activities supported by the Project;
- Oversee and ensure timely submission of the Inception Report, Annual Progress Report (APR), Technical reports, quarterly financial reports, and other reports as may be required by UNDP, AFB and other oversight agencies;
- Disseminate project reports and respond to queries from concerned stakeholders;
- Will act as Secretariat to the PSC and PNCCs.
- Report progress of project to the PSC, and ensure the fulfilment of its directives;

- Oversee the exchange and sharing of experiences and lessons learned with relevant community based integrated conservation and development projects nationally and internationally;
- Ensures the timely and effective implementation of all components of the project;
- Carry out regular Environmental and Social Impact monitoring, as required
- Handle any grievances received and respond accordingly as per the Stakeholder Response Mechanism of UNDP.
- Assist community groups, municipalities, NGOs, staff, students and others with development of essential skills through training workshops and on the job training thereby upgrading their institutional capabilities;
- Coordinate and assists scientific institutions with the initiation and implementation of all field studies and monitoring components of the project; and
- Perform any other duty relevant to the assignment.

Competencies

Corporate Competencies:

- Demonstrates integrity by modelling the UN's values and ethical standards;
- Promotes the vision, mission, and strategic goals of UNDP;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability; and
- Treats all people fairly without favouritism.

Functional Competencies:

Knowledge Management and Learning:

- Promotes a knowledge sharing and learning culture in the office;
- In-depth knowledge on sustainable development issues and the mainstreaming of biodiversity conservation;
- Ability to advocate and provide policy advice; and
- Actively works towards continuing personal learning and development in one or more Practice Areas, acts on learning plan and applies newly acquired skills.

Development and Operational Effectiveness:

- Ability to lead strategic planning, results-based management and reporting;
- Ability to lead formulation, implementation, monitoring and evaluation of sustainable development programmes and projects, and mobilize resources;
- Good knowledge of the Results Management Guide and Toolkit;
- Strong IT skills; and
- Ability to lead implementation of new systems and processes, and affect staff behavioural/ attitudinal change.

Management and Leadership:

- Focuses on impact and results for the client and responds positively to feedback;
- Leads teams proactively and effectively and shows conflict resolution skills;
- Consistently approaches work with energy and a positive, constructive attitude;
- Demonstrates strong oral and written communication skills;
- Builds strong relationships with clients and external actors;
- Remains calm, in control and good humoured even under pressure; and

- Demonstrates openness to change and ability to manage complex situations.

Required Skills and Experience

Education:

- A Master degree in Environmental, Natural Sciences or Natural Resources Management;
- Master degree in management/project management is also highly desirable and can be accepted in place of a degree in Environment if completed by adequate experience.

Experience:

- At least 5 years of experience in natural resource planning and management;
- At least 5 years of project/programme management experience and at least 3 years of experience in international/regional project management
- Working experience with the project national stakeholder institutions and agencies is desired;
- Ability to effectively coordinate a large, multi-stakeholder project;
- Ability to administer budgets and prepare work plans;
- Ability to mobilize, train and work effectively with counterpart staff at all levels and with all groups involved in the project;
- Working experience with donor funded projects (UNDP, UNDEP, GEF, AFB, EU, WHO, FAO, etc) will be an advantage.
- Strong drafting, presentation and reporting skills;
- Good IT skills (word processing, presentation, spread sheets, internet, email); and
- Excellent oral and written communication skills.

Language:

- Fluency in English and French (written & spoken).

Nationality:

- international.

2. Project/Finance Assistant

Background

The Project/Finance Assistant will be locally recruited based on an open competitive process. He/She will be responsible for the overall administration of the project. The Project/Fianance Assistant will report to Regional Project Manager. He/She will be based in Mauritius. Generally, the Project/Fiance Assistant will be responsible for supporting the Regional Project Manager in meeting the two governments obligations under the project, under the Direct Implementation (DIM) Modality.

Duties and Responsibilities

- Collect, register and maintain all information on project activities;
- Contribute to the preparation and implementation of progress reports;
- Monitor project activities, budgets and financial expenditures;
- Advise all project counterparts on applicable administrative procedures and ensures their proper implementation;

- Maintain project correspondence and communication;
- Support the preparations of project work-plans and operational and financial planning processes;
- Assist in procurement and recruitment processes;
- Assist in the preparation of payments requests for operational expenses, salaries, insurance, etc. against project budgets and work plans;
- Follow-up on timely disbursements by UNDP CO;
- Receive, screen and distribute correspondence and attach necessary background information;
- Prepare routine correspondence and memoranda for Project Manager's signature;
- Assist in the Environmental and Social Impact monitoring, to be carried out on regular basis.
- Assist in logistical organization of meetings, training and workshops;
- Assist in the handling of any grievances received and respond accordingly as per the Stakeholder Response Mechanism of UNDP.
- Prepare agendas and arrange field visits, appointments and meetings both internal and external related to the project activities and write minutes from the meetings;
- Maintain project filing system;
- Maintain records over project equipment inventory; and
- Perform any other duty relevant to the assignment.

Competencies

Corporate Competencies:

- Demonstrates commitment to UNDP's mission, vision and values;
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability;
- Highest standards of integrity, discretion and loyalty.

Functional Competencies:

Knowledge Management and Learning:

- Shares knowledge and experience;
- Actively works towards continuing personal learning, acts on learning plan and applies newly acquired skills;
- Excellent written and oral communication skills.

Development and Operational Effectiveness:

- Ability to perform a variety of standard tasks related to Results Management, including screening and collecting of projects documentation, projects data entering, preparation of revisions, filing, provision of information;
- Ability to provide input to business processes re-engineering, implementation of new system, including new IT based systems.

Leadership and Self-Management:

- Focuses on result for the client and responds positively to feedback;
- Consistently approaches work with energy and a positive, constructive attitude;
- Remains calm, in control and good humoured even under pressure.

Required Skills and Experience

Education:

- Minimum Bachelor Degree in; Management, Engineering, Economics, Finance, Biology and or Environmental Sciences, Public Administration.

Experience:

- At least 3 years in project management, administrative and/or financial management, environmental management experience;
- Demonstrable ability to administer project budgets, and track financial expenditure;
- Demonstrable ability to maintain effective communications with different stakeholders, and arrange stakeholder meetings and/or workshops;
- Excellent computer skills, in particular mastery of all applications of the MS Office package.
- Experience in ATLAS or other enterprise software will be an advantage.

Language:

- Fluency in English and French (written & spoken).

Nationality:

- Mauritian only

3. Chief Technical Advisor

Background

The Chief Technical Advisor (CTA) will be responsible for providing overall technical backstopping to the Project. He/She will render technical support to Project Management Team (PMT) and other government counterparts. The CTA will support the provision of the required technical inputs, reviewing and preparing Terms of References and reviewing the outputs of consultants and other sub-contractors. The CTA will also provide the principal technical input on Coral Reef Restoration. He/She will report directly to the National Project Directors of each Country and the UNDP.

Duties and Responsibilities

- Provide technical support to the PMT and other government counterparts in the areas of project management and planning, management of site activities, monitoring, and impact assessment;
- Provide the necessary technical input on Coral Reef Restoration;
- Support the PMT in preparing Terms of Reference for consultants and sub-contractors, and assist in the selection and recruitment process;
- Support the PMT in coordinating the work of all consultants and sub-contractors, ensuring the timely delivery of expected outputs, and ensuring an effective synergy among the various sub-contracted activities;
- Support the PMT in the preparation of the Annual Progress Report (APR), inception report, technical reports, quarterly financial reports for submission to UNDP, the AFB, other donors and Government Departments, as required;
- Support PMT in mobilizing staff and consultants in the conduct of a mid-term project evaluation, and in undertaking revisions in the implementation program and strategy based on evaluation results;
- Assist the PMT in liaison work with project partners, donor organizations, NGOs and other groups to ensure effective coordination of project activities;
- Oversee the handling of any complaints received.

- Oversee the Environmental and Social Impact monitoring.
- Support the PMT in documenting lessons from project implementation and make recommendations to the Project Steering Committee for more effective implementation and coordination of project activities; and
- Perform other tasks as may be requested by the PMT and UNDP.

Qualifications

- University education (MS or PhD), with specific expertise in the area of Coral Reef Restoration, with a good understanding of conservation, sustainable use and management of marine and coastal biodiversity;
- At least 15 years of professional experience in conservation, sustainable use and management of marine and coastal biodiversity;
- Demonstrable experience in implementing equivalent AFB or other multilateral donor-funded projects;
- Be an effective negotiator with excellent oral and presentation skills;
- A good working knowledge of international best practice in conservation, sustainable use and management of biodiversity is desirable;
- Excellent writing skills; and
- Fluency in English is required. A working knowledge of French is desirable.

4. Project Gender Officers

Under the overall supervision and guidance of the Regional Project Manager, the Gender Officers will have the responsibility for the implementation of the Gender Action Plan. The Gender Officers will work closely with the Responsible Parties and Project Management Team on related aspects of project implementation, reporting, monitoring, evaluation and communication. Specific responsibilities will include:

Duties and Responsibilities

- Monitor progress in implementation of the project Gender Action Plan ensuring that targets are fully met and the reporting requirements are fulfilled;
- Oversee/develop/coordinate implementation of all gender-related work;
- Review the Gender Action Plan annually, and update and revise corresponding management plans as necessary;
- Assist the PMT in the monitoring of Environmental and Social Risk and reporting.
- Work with the M&E Consultants to ensure reporting, monitoring and valuation fully address the gender issues of the project;

Qualifications

- Master's degree in gender studies, gender and development, environment, sustainable development or closely related area.
- Demonstrated understanding of issues related to gender and sustainable development; at least 5 years of practical working experience in gender mainstreaming, women's empowerment and sustainable development in relevant Country/Region/Area of Work;
- Proven experience in gender issues in Country/Region/Area of Work
- Previous experience with UN projects will be a definite asset;
- Demonstrated understanding of the links between sustainable development, social and gender issues;
- Experience in gender responsive capacity building;
- Experience with project development and results-based management methodologies is highly desired/required;

- Excellent analytical, writing, advocacy, presentation, and communications skills.
- Excellent language skills in English (writing, speaking and reading) and in local languages.

5. Project Steering Committee (PSC)

The PSC will serve to guide the overall implementation of the project. The PSC will serve as the primary decision making body to which the PMT and the Project National Coordinating Committee (PNCC) will report.

Specifically, the PSC will ensure that project goals and appropriate AF procedures for reporting are met. It will ensure complementarities across the two project countries, ensure knowledge sharing and avoid duplication of efforts that could lead to wasteful expenditures.

Membership of the Project Steering Committee:

- The members of the PSC will be composed of representatives of the Project National Coordinating Committees (at least 6 from each country including the Executing Partners and Responsible Parties), UNDP, and the PMT
- The Chair and Co-Chair of the PSC will be elected at each Committees among the senior officials of the project Countries. They should be a representative of each country.
- Representatives of the Regional Scientific Advisory Committee may be invited as observers/advisors, as necessary to any meeting of the Committee.

Secretariat

The PMT will act as Secretariat for the PSC.

Meetings of the Committee:

The PSC will physically meet at least once a year, alternating the venue between the two countries. The PSC can be called, as needs arise, using modern telecommunication means.

Role and function:

a) Oversee and provide overall direction to the project and to give guidance to the Project Management Team and National Teams.
b) Review, discuss and approve the annual work plan, procurement plans and budget for the project;
c) Develop and approve terms of reference for the Project National Coordinating Committees and oversee their functioning to ensure inter-ministry involvement and the active involvement of all stakeholders;
d) Review periodic monitoring and evaluation reports and advise the PMTs accordingly.
e) Review Annual Progress Report.
f) Monitor the implementation of the project, ensuring that any strategic changes are undertaken in a timely manner so that the project achieves its goals.
g) Take note of any grievances received and provide advice on remedial actions and lessons learned.
h) Co-ordinate with the Project Management Team to ensure the project stays on schedule and that project outputs are being completed on time and within budget;

i) Co-ordinate the work of Regional Scientific Advisory Committee that may be established;
j) Agree to these terms of reference in their first meeting and make any amendments as necessary.

Conduct of Committee Business

- The Project Steering Committee will aim to achieve consensus on decisions made. In the event this proves impossible, decisions may be made by simple majority vote amongst participating members. In the event of a tie, the Chairperson will have an additional casting vote.
- The PSC may from time to time review these terms of reference and its membership and make necessary adjustments and amendments

6. Project National Coordinating Committee (PNCC)

The Project National Coordinating Committee (PNCC) will be established in each country to guide the implementation of the project at National Level. The PNCC will provide recommendations and information to the PSC. Specifically the PNCC will monitor project implementation at the national level, will act as immediate grievance resolution mechanism and serve as the forum for national stakeholder participation.

Members of the Project National Coordinating Committee:

- The members of the PNCC will be the national stakeholders, including, but not limited to: Executing partner, relevant government ministries, Responsible Party the National Team, members of the Regional Scientific Advisory Committee, NGOs, Private sector, Civil Societies, academia, and other relevant stakeholders.
- The highest official of the Enforcing Entity of each country will chair the PNCC.
- The PNCC may opt to invite additional experts (observers/advisors) as necessary to any meeting of the Committee.

Secretariat:

- The Project Management Team will act as Secretariat for the PNCC

Meetings of the Committee:

- The PNCC will meet according to necessity, but not less than once in 4 months. The PNCC will otherwise maintain regular communication by e-mail and teleconference as appropriate and necessary.
- The PNCC may convene *Ad hoc* committees to advise the PNCC on specific matters.

Role and function:

The PNCC will operate by consensus to:

a. Provide direction to the project and to give guidance to the PMT and National Team at National Level;
b. Develop, review and approve work plans at National level for submission to the PSC;
c. Monitor project execution at National level;
d. Co-ordinate with the PMT to ensure the project stays on schedule and that project outputs are being completed on time and within budget;

e. Review and approve the Environmental and Social Impact Assessment monitoring at national level.
f. Act as immediate grievance resolution mechanism and respond accordingly.
g. Agree to these terms of reference in their first meeting with any amendments as necessary.

Conduct of Committee Business

- The Project National Coordinating Committee will aim to achieve consensus on decisions made. In the event this proves impossible, decisions may be made by simple majority vote amongst participating members. In the event of a tie, the Chairperson will have an additional casting vote.

- The PNCC may from time to time review these terms of reference and its membership and make necessary adjustments and amendments

7. Regional Scientific Advisory Committee (RSAC)

The RSAC will be established to advise the Project Steering Committee and to ensure that the activities undertaken through the project are appropriately coordinated and communicated at the regional level. 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.

Duties

- Provide technical advice to the PMT, National team, PNCC and PSC
- Review the documents/reports, especially regarding outputs of component 3.
- Validate the process and results of the research activities
- Ensure that the best scientific knowledge and best technical standards are respected.
- Assist in identification of keynote/plenary speakers and scientists for contributions to the conference.
- Assist in establishment of review and selection process of abstracts for oral, poster presentations or workshops for the conference.
- Assist in review of documents produced for the conferences, eg. background documents, white papers programmes etc.
- Validate the quality of the reports prepared.
- Review toolkit to be produced at the end of the project.

Composition

The RSAC will be composed of:

- Relevant Scientifics from each country, including recognized international and regional coral reef restoration experts namely from, Australia, Madagascar, Maldives, South Africa, Sri Lanka and Thailand.
- CTA
- Accademia from each country
- The members of the RSAC will be approved by the PSC.

Annex 12

Reporting of the Adaptation Fund Core Impact Indicators

Table 1 Reporting of Number of Beneficiaries for Mauritius

Adaptation Fund Core Impact Indicator "Number of Beneficiaries"				
Date of Report	3 September 2017			
Project Title	Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future			
Country	Mauritius			
Implementing Agency	UNDP			
Project Duration	6 Years			
	Baseline *(absolute number)*	Target at project approval *(absolute number)*	Adjusted target first year of implementation *(absolute number)*	Actual at completion[1] *(absolute number)*
Direct beneficiaries supported by the project	0	**660** Mauritius/Rodrigues: • 20 Vulnerable groups (taking part in training and restoration work) • 40 NGO workers, researchers and conservationists • 500 Fishers • 100 Boat operators		
Female direct beneficiaries	0	300		
Youth direct beneficiaries	0	150		
Indirect beneficiaries supported by the project	0	**29,500** Mauritius: 22,491[2] Rodrigues: 7,102[3]		
Female indirect beneficiaries	0	**14,900** Mauritius: 11,394 Rodrigues: 3,603		
Youth indirect beneficiaries	0	Mauritius: 3,486 Rodrigues: 1,100[4]		

[1] At project completion, the proponent could report on % targeted population reached or successfully supported (the absolute numbers could then be deduced from that figure)

[2] Populations of Mahébourg and Beau Vallon

[3] Inferred from 2,029 households in SEMPA region x 3.5 average household size for Mauritius

[4] Inferred from national percentage of youth 15-25 years old =15.5% in population census 2011

Table 2 Reporting for Number of Beneficiaries for Seychelles

Adaptation Fund Core Impact Indicator "Number of Beneficiaries"				
Date of Report	3 September 2017			
Project Title	Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future			
Country	Seychelles			
Implementing Agency	UNDP			
Project Duration	6 Years			
	Baseline *(absolute number)*	Target at project approval *(absolute number)*	Adjusted target first year of implementation *(absolute number)*	Actual at completion[5] *(absolute number)*
Direct beneficiaries supported by the project	0	**223:** • 53 vulnerable group • 45 boat operators • 85 taking part in training and restoration works • 40 NGO workers, University Students, Researchers and conservationist		
Female direct beneficiaries	0	100		
Youth direct beneficiaries	0	70		
Indirect beneficiaries supported by the project	0	**59,725** • 48,000 (tourists) • 2825 [6] (population of Takamaka) • 8900 (population of Praslin)		
Female indirect beneficiaries	0	25,000		
Youth indirect beneficiaries	0	**9820** • 7400 tourists • 400 from Takamaka • 2020 from Praslin		

[5] At project completion, the proponent could report on % targeted population reached or successfully supported (the absolute numbers could then be deduced from that figure)

[6] (2010) National Statistics Bureau, Seychelles

Table 3 Reporting of Natural Assets Protected or Rehabilitated for Mauritius

Adaptation Fund Core Impact Indicator "Natural Assets Protected or Rehabilitated"				
Date of Report	04 September 2017			
Project Title	Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future			
Country	Mauritius			
Implementing Agency	UNDP			
Project Duration	5 Years			
	Baseline	Target at project approval	Adjusted target first year of implementation	Actual at completion[7]
Natural Asset or Ecosystem *(type)*	Restoration of coral reefs			
Change in state *Ha or km Protected/rehabilitated, or Effectiveness of protection/rehabilitation - Scale (1-5)*	0 Ha	3.2 Ha		
Total number of natural assets or ecosystems protected/rehabilitated	0	2		

Table 4 Reporting of Natural Assets Protected or Rehabilitated for Seychelles

Adaptation Fund Core Impact Indicator "Natural Assets Protected or Rehabilitated"				
Date of Report	04 September 2017			
Project Title	Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future			
Country	Seychelles			
Implementing Agency	UNDP			
Project Duration	5 Years			
	Baseline	Target at project approval	Adjusted target first year of implementation	Actual at completion[8]
Natural Asset or Ecosystem *(type)*	Restoration of coral reefs	Restoration of coral reefs		
Change in state *Ha or km Protected/rehabilitated, or Effectiveness of protection/ rehabilitation - Scale (1-5)*	0.5 Ha	2.5 Ha		
Total number of natural assets or ecosystems protected/rehabilitated	3	4		

[7] At project completion, the proponent could report on % targeted population reached or successfully supported (the absolute numbers could then be deduced from that figure)

[8] At project completion, the proponent could report on % targeted population reached or successfully supported (the absolute numbers could then be deduced from that figure)

MINISTRY OF ENVIRONMENT, ENERGY & CLIMATE CHANGE

Office of the Minister
2nd Floor, Le Chantier Mall, P. O. Box 445, Victoria, Mahe, Republic of Seychelles
Tel: 4610740 Fax: 4610558 Email: s.renaud@env.gov.sc
Please address all correspondence to the Minister

9th January 2018

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Dear Sir/Madam

Subject: Endorsement for "Restoring marine ecosystem services by rehabilitating coral reefs to meet a changing climate future"

In my capacity as the designated government authority for the Adaptation Fund in Republic of Seychelles, this Ministry confirms that the above regional project proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in the Republic of Seychelles.

Accordingly, we are pleased to endorse the above project proposal with full support from the Adaptation Fund. If approved, the project will be implemented by the United Nations Development Programme (UNDP) and executed In Seychelles by the Ministry of Environment, Energy and Climate Change in collaboration with the Seychelles National Parks Authority, Nature Seychelles and Marine Conservation Society Seychelles.

Yours faithfully

Didier Dogley
Minister

Ministry of Finance & Economic Development
Government Centre, Port Louis, Republic of Mauritius

In your reply, please quote:

CF/50/100/40/38

12 January 2018

Endorsement Letter

The Manager
Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: afbsec@adaptation-fund.org

Dear Madam,

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

As designated Government authority for endorsing projects under the Adaptation Fund in the Republic of Mauritius, this Ministry confirms that the regional project proposal for the above mentioned project is in accordance with the priorities of Government in implementing climate adaptation activities. This project will help to reduce the adverse impacts of, and the risks posed by climate change. It will also enhance collaboration and synergies not only between Mauritius and Seychelles but in the region as a whole.

2. Accordingly, we are pleased to endorse the above project proposal with full support from the Adaptation Fund. If approved, the project will be implemented by the United Nations Development Programme (UNDP) and the lead executing entity in Mauritius will be the Ministry of Ocean Economy, Marine Resources, Fisheries, Shipping and Outer Islands.

Yours Sincerely,

MINISTRY OF FINANCE & ECONOMIC DEVELOPMENT · MAURITIUS ·

R. Chellapermal
Deputy Financial Secretary
for **Designated Authority**

REPUBLIC OF MAURITIUS

MINISTRY OF OCEAN ECONOMY, MARINE RESOURCES, FISHERIES & SHIPPING
Albion Fisheries Research Centre, Albion, Petite Rivière

CONDITIONS FOR CORAL FARMING PROJECT

(A) Collection of Coral fragments:

The collection of a total of **X (depending on the request an area of demand)** coral fragments (only) from the selection of species: (**Targeted species to be provided by promoter/institution)** within the **X region** (**depending on area requested)** may be considered subject to the following conditions:

(i) The selected mother colony for fragmentation should be of at least a diameter of 60 cm and the number of fragments collected from each mother colonies shall not exceed 10% of the total number of colonies per species.

(ii) Live corals fragments shall be collected from colonies without adversely affecting the mother colony.

(iii) An officer from the Albion Fisheries Research Centre shall be present on the days of the collection exercise.

(iv) The promoter/Institution shall inform the Fisheries Protection Officers of the region before each collection coral fragments activities.

(v) A detailed schedule of activities shall be communicated to this Ministry at least two days prior to the collection exercise.

(vi) The collection exercise shall be carried out in such a way that no 'collateral' damage is caused to the marine environment.

(vii) The coral fragments collected shall be used for setting up of nurseries only.

(viii) The collection permit shall be applicable for this project only.

(B) Setting up of coral nurseries:

The setting up of coral nurseries of **(size depending on nursery required and site area)** using the rope technique may be established at GPS coordinates: **(to be determine after ecological survey carried out)** subject to:

(i) If the coral nurseries is to be set up within a Fishing Reserves or marine park, the promoter/Institution shall apply for and pay a fee of Rs. 75 000 for an Interference Permit to this Ministry as per the Fisheries and Marine Resources (Marine Protected Areas) Regulations 2001 and amended Regulations 2007. The Interference Permit shall be renewed on yearly basis by paying a fee of Rs. 7 000.

(ii) No dredging of the sea bed shall be carried out.

(iii) The fishermen community of the region shall be informed of the project in view of resolving any possible conflict.

(iv) No wastes or fall-outs shall be allowed to have access into the sea during the implementation of the nurseries.

(v) No marine organisms shall be removed or displaced.

(vi) All necessary precautions shall be taken to avoid any negative impact to the marine ecosystem at the sites.

(vii) In the event that any harm has been caused to the marine environment at the site, the promoter/institution shall take all necessary steps to redress the situation at its own costs.

(viii) This Ministry shall not be held responsible for any accidents that may occur during the process of the project.

(C) Transplantation of nurseries-reared corals:

The transplantation of the nursery-reared corals may be carried out at the GPS coordinates **(to be determine before the project is undertaken)** subject to:

(i) A detailed schedule of activities for the transplantation shall be communicated to this Ministry at least one week prior to the transplantation exercise.

(ii) An officer from the Albion Fisheries Research Centre shall be present during the transplantation exercises.

(iii) The transplantation method and technique used shall not have any negative impact on the marine environment.

(iv) A six-monthly report on the project's findings shall be submitted to this Ministry for monitoring purposes.

(v) The Ministry of Ocean Economy, Marine Resources, Fisheries and Shipping shall be acknowledged in all publications related with this study.

(vi) There shall be no cost involvement from this Ministry for the project.

(vii) This Ministry reserves the right to revoke the permits, should any of the above conditions be breached.

(viii) The promoter/Institution shall adhere strictly to the GPS locations priory approved.