ADAPTATION FUND

6 December 2021

Adaptation Fund Board

ADAPTATION FUND VIRTUAL PORTFOLIO MONITORING MISSION IN SEYCHELLES

ADAPTATION FUND

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INTRODUCTION

Background and scope of the mission

1. At its 28th meeting, the Adaptation Fund Board (AFB) approved the updated Knowledge Management (KM) Strategy and Work Plan for the Fund; and approved the Medium-Term Strategy (MTS) of the Fund at its 30th meeting. Under Component 1 of the strategy, "Capture and Transfer Knowledge related to Adaptation, Accreditation, Direct Access and the monetization of Certified Emissions Reduction," conducting missions to projects/programs under implementation is one of the ways to further collect and analyze lessons learned at a portfolio level. In this context, the Project Monitoring Mission (PMM) for projects under implementation supports the analysis and knowledge sharing of lessons learned and best practices.

2. Nineteen PMMs have been organized thus far, and the Seychelles Mission was the second virtual mission. The PMM organizers aimed to collect and analyze lessons learned and best practices for climate change in different areas and sectors, which can be found in the last section of this report. The PMM was especially timely following the recent Conference of Parties (COP26) held in Glasgow, Scotland, during which world leaders discussed how to increase adaptation action.

3. In light of the COVID-19 outbreak, the Adaptation Fund has adjusted its modus operandi to conduct portfolio monitoring missions in a virtual format, which allows for capturing lessons learned through breakout sessions among different stakeholders and through site visits. Other stakeholders, including local civil society organizations and partners, are equally invited to join the PMM. The rapid transition from in-person missions to virtual trainings is just one way the Adaptation Fund supports developing countries in meeting their climate change adaptation needs on the frontlines of the COVID-19 outbreak.

4. As part of the Knowledge Management and Mid-term strategies, the Adaptation Fund Board will systematically use information from its funded projects/programs under implementation as well as from its unique decision-making structure and operations to (i) enhance countries' capacity and knowledge to improve the design and increase the effectiveness of future adaptation projects/programs, and to (ii) inform its decision making, enhance transparency, and improve the Fund's overall effectiveness.

5. The proposed virtual PMM objective is to collect and analyze lessons learned and best practices from the project "*Ecosystem Based Adaptation to Climate Change in Seychelles,"* implemented by the United Nations Development Programme (UNDP). The Project seeks to reduce the vulnerability of the Seychelles to climate change, focusing on two key issues: water scarcity and flooding in seven catchment areas.

6. The objective of the Project is to incorporate ecosystem-based adaptation (EbA) into the country's climate change risk management system to safeguard water supplies threatened by climate change induced perturbations in rainfall and to buffer expected enhanced erosion and coastal flooding risks arising as a result of higher sea levels and increased storm surges.

7. Overall, the seven-year project has successfully increased the adaptation capacity of residents to climate change and mainstreamed EbA and Nature-based Solutions (NbS) approaches into development planning. These successes can be seen in the establishment of an effective watershed committee network and a draft water bill currently being considered for legislation.

8. Certain challenges remain including the need for a comprehensive exit strategy before the project ends in March 2022 and the need for a more decisive communication network between key stakeholders. Noted improvements have been made as well since the 2018 Mid-term Evaluation Report and the subsequent project performance reports (PPRs) have rated the Project as satisfactory.

9. This report highlights the project progress, findings, and lessons learned as of December 2021.

Methodology

The Seychelles virtual mission was conducted jointly by the Adaptation Fund Board Secretariat, UNDP (Implementing Entity) and the Ministry of Agriculture, Climate Change and Environment (Executing Entity). Using Zoom meetings, the three-day virtual mission in Seychelles lasted from 30 November to 2 December, 2021 and incorporated breakout sessions among different stakeholders including virtual site visits. Each day consisted of sessions lasting two to three hours. Additionally, a set of guiding questions related to the Seychelles portfolio objectives was prepared and shared in advance with UNDP participants.

10. During the three-day virtual PMM, the representatives of the secretariat interacted with key stakeholders including project beneficiaries. The progress and main findings were highlighted and discussed relating to project implementation and execution. A virtual field visit was also conducted using video format.

PROJECT CONTEXT AND PROGRESS TO DATE

Context

11. The Republic of Seychelles consists of 115 islands, of which 40 are granitic and the rest coral formations. The islands are located within 4º and 9º south of the equator.

12. The prevailing climate of the archipelago is equatorial. Humidity is uniformly high and mean temperatures at sea level range from 24ºc to 30ºc. The average annual rainfall is 2,200 mm. The prevailing winds bring the wet northwest monsoon from November to March and the drier southeast monsoon from May to October, with heavier wind. Climatic conditions, however, vary considerably between islands, mainly in relation to their altitudes and location. Rainfall can be as high as 5,000mm per year on the top of the highest peak (900m) on the island of Mahé, and as low as 867mm on the coralline island of Assumption.

13. The Seychelles is economically, culturally, and environmentally vulnerable to the effects of climate change and associated extreme weather events. The effects of climate change are already noticeable in Seychelles and these effects and their associated impacts are projected to escalate in the future. The two biggest climate change vulnerabilities are water scarcity and coastal flooding.

14. Much of the precipitation in the Seychelles has become unpredictable, creating periods alternating between intense downpours and precipitation scarcity. Such unpredictability has created heavy flooding in the wet season, while imposing extended periods of drought during the dry season. As the country lacks large water storage capacity, and the topography of the islands constrains such infrastructure, water supplies are heavily dependent upon rainfall. Furthermore, the coastal zone is vulnerable to flooding as a consequence of rising sea surface levels and increased storm surges from cyclonic activity in the Western Indian Ocean.

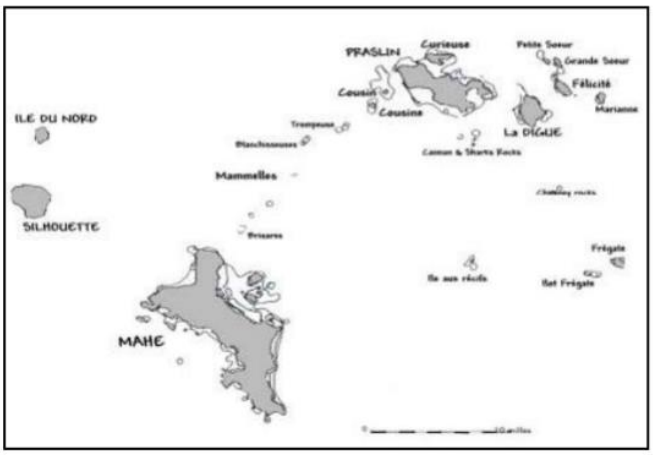

Figure 1: Seychelles consists of 115 islands of which 40 are granitic and the rest coral formations.

15. The Seychelles Project will reduce these precipitation vulnerabilities by spearheading EbA as climate change risk management – restoring ecosystem functionality and enhancing ecosystem resilience. This includes sustainable watershed and coastal processes to secure critical water provisioning and flood-attenuation ecosystem services from watersheds and coastal areas.

16. Therefore, the project seeks to reduce the vulnerability of the Seychelles to climate change, focusing on water scarcity and flooding using three components:

Project component 1: Ecosystem-based adaptation approach to enhancing freshwater security and flood control in Mahé and Praslin under conditions of climate change	US$ 2,970,000
Project component 2: Ecosystem-based adaptation approaches along the shorelines of the Granitic Islands reduce the risks of climate change induced coastal flooding.	US$ 1,975,000
Project component 3: Ecosystem-based adaptation mainstreamed into development planning and financing.	US$ 555,000

17. The specific aim of the PMM in Seychelles is to gather learning from the EbA approaches in critical ecosystems (forests, natural wetlands) as well as showcase replicable NbS in a Small Island Developing State (SIDS) context.

Progress to Date

18. The Adaptation Fund Board, at its twenty third intersessional meeting, approved the project in Seychelles submitted by the United Nations Development Programme (UNDP) for a requested amount of US$6,455,750 (decision B.22-23/3). The project is executed by the Ministry of Agriculture, Climate Change, and Environment. Implementation of the project began on October 14, 2014 by UNDP, with a duration of 5.5 years. To date, the trustee has transferred 100 percent of the approved amount. The project also received a COVID-19 extension request which extends the completion date to March 31, 2022. Regardless, Project implementation activities have been severely delayed due to the Pandemic.

19. In April 2018, the Project went through a mid-term evaluation process, the report of which was finalized and submitted to the Adaptation Fund Board secretariat in January 2020. The Mid-Term Evaluation Report (MTR) acknowledged the difficulty faced by the project implementation team to meet targets of certain indicators in the project logistical framework and recommended a new series of “shadow indicators” to be devised and measured in addition to the existing indicators. Following the recommendations of the MTR, a series of Specific, Measurable, Achievable/Attainable, Realistic/Relevant/Reliable, and Timely (SMART) “shadow indicators” to capture project results with greater sensitivity were devised. These have been included in the project’s monitoring and evaluation process alongside the original logical framework indicators to enable the project team to track the real impact of the project on the ground. The MTR also recommended greater emphasis on communications, influencing behavior change, and empowering local communities to influence catchment management.

20. Among other results, the Project met its 50 percent goal of increasing the resiliency of direct female beneficiaries (15,000) and 50 percent goal of increased resiliency of indirect female beneficiaries (45,000). The Project was also effective at reducing exposure to climate-related hazards and threats, such as coastal flooding; 50,000 stakeholders benefited from the reduced exposure. Finally, institutional capacity to reduce risks associated with climate-induced socioeconomic and environmental losses was strengthened. This means institutional staff are better able to respond to climate-related events. The final Project Performance Report will list all results against Project indicators.

FINDINGS, VIRTUAL SITE VISITS, AND CHALLENGES

Best practices and impacts reached by the program

21. The PMM opened with a high-level remarks’ session, which offered an overview of the Fund and about climate change adaptation in Seychelles.

22. The Seychelles Mission was opened by Mr. Flavien Joubert, Minister of Agriculture, Climate Change, and Environment, with additional opening comments supplied by Ms. Amanda Serumaga, UNDP representative to Mauritius and Seychelles, and Mr. Mikko Ollikainen, Adaptation Fund Manager. This is the first time a Ministry has engaged with the Adaptation Fund and UNDP during an exchange. Additional speakers included a wide variety of stakeholders ranging from project implementers, to technical specialists. A full list of meeting participants and presenters can be found in Annex 1. The following section summarizes the virtual site visits and key findings from the Mission.

23. The Minister noted how proud the country is of its EbS efforts and how this PMM shows the Adaptation Fund commitment to SIDS. The Project creates conditions for future climate change resilience, especially within the farming community. The Project also enhances gender equity through women-led committees.

24. The Minister equally highlighted the progress of a national water bill aimed at improving water management currently being drafted for legislation. It was noted how national plans and legislation are the path forward and Seychelles is committed to increasing its climate change adaptation efforts based on its 2020 national climate change policy.

25. Mr. Wills Agricole, National Project Director, highlighted how the Seychelles Project reduces vulnerability to climate change and is currently acting as a flagship project for the region. Additionally, the establishment of local watershed committees has had a positive impact on how the Project focuses on community management of ecosystems.

26. The Adaptation Fund manager noted how the Adaptation Fund has been an early funder of adaptation projects. Following COP26, The Adaptation Fund received US$350million in pledges from 16 donor countries to support concrete adaptation action – triple from 2020. This shows the commitment of nations to increase adaptation efforts. The Adaptation Fund Board Member, Mr. Mahamat Assouyouti, equally noted how the Seychelles can act as an example for results across Africa.

27. The available finance is still only a fraction of what is needed. Therefore, the Adaptation Fund seeks to use its limited resources for climate adaptation investments and has a responsibility to capture lessons learned through PMMs. Fortunately, the Adaptation Fund Board has lifted the country cap to US$20million. Seychelles can now access more funds via applications using a combination of first come first serve and equitable systems. The Adaptation Fund also has openings for funding under its climate change innovation fund

FINDINGS

Beneficiaries see improvement in income and assets

28. The Seychelles Project was scaled up to meet climate adaptation demand and thus far, 60,000 beneficiaries have been reached through 15,000 ecosystem conservation efforts. In addition, 15 km of beach have been protected from coastal erosion and 400 households saw improvements in income and assets.

Figure 2: Watershed committee member highlights benefits of watershed rehabilitation.

29. The UNDP representative highlighted UNDP's US$5.7million climate change portfolio in Seychelles spanning 39 projects. UNDP's aim for Seychelles is to enhance water catchment and support NbS-focused reforestation of flora, rehabilitation of water sheds, and restoration of natural habitats. In addition, the UNDP-supported Common Market for Eastern and Southern Africa (COMESA) project complements the Adaptation Fund and Global Environment Facility (GEF) Ridge to Reef-financed projects; all support addresses the following sustainability goals: 2 zero hunger; 5 gender equality; 6 clean water and sanitation; 14 & 15 life below water and life on land; and 17 partnerships.

Rehabilitation of degraded wetlands and enhancement of natural structures deliver concrete adaptation actions to maintain and restore the natural functioning of watershed and coastal processes.

30. The Project geo-hydrologist presented on the rehabilitation of degraded wetlands and streams, plus efforts to enhance natural structures. All rehabilitation sites were selected based on vulnerability assessments. One aim of the Project is to ensure a natural balance however, threats remain due to agricultural and urban practices from soil exposure preventing water absorption. This results in a loss of fertility and impacts marine ecosystems and food security. Any ensuing water run-off also causes flooding downstream.

31. Key achievements have included increased water security, civil protection, local ecotourism, food security, and trained firefighting. These achievements were based on a strong community approach. The Project staff emphasized the need to continue efforts to restore ecosystems and reduce water scarcity.

32. On Praslin Island, forest fires are placing a strain on water resources. The Project works to provide access to water resources to fight fires. This includes an inventory of all hydrodynamic processes, which lead to water catchment areas and potential water access points. To access data, watershed mapping is key and has been created to inform agricultural services on the island. Thus far, 28 springs have been inventoried. Once inventoried, EbS approaches can begin using natural materials.

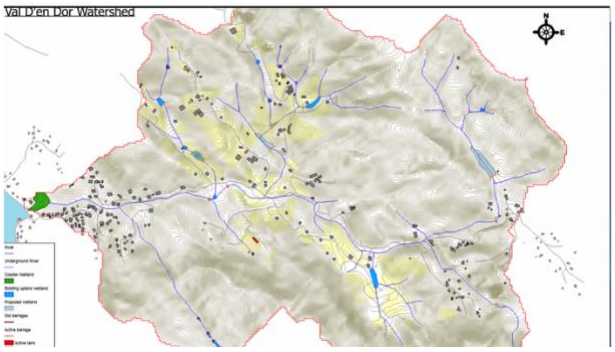

Figure 3: Wal D'en Dor Watershed mapped using GIS.

33. Results show regeneration benefits as natural water storage is key to landscape regeneration and water retention. Rehabilitated areas additionally attract eco-tourism. Another benefit is reducing saline intrusions from uphill water retention, which is non-saline. As water needs space to circulate, wetland rehabilitation allows for the circulation and creation of aqua habitats that help clear salination.

34. Planning for the defense of forest fires has resulted in an agreement with Réunion fire fighters to advise Seychelles. To develop local capacity in forest fire-preparedness, the project collaborated with the Reunion Islands Fire Services to organize a study tour for beneficiaries from the Seychelles Fire and Rescue Services Agency (SFRSA). The responders on Praslin adapted equipment to fight fires and trained 75 personnel to implement firefighting. It was noted that firefighting must be based on a helicopter approach complete with landing sites. The Terrestrial Restoration Action Society of Seychelles (TRASS) NGO noted that 40 percent of the area is affected by forest fires, thus, forest fire planning remains essential.

35. The project has further developed a regional collaboration with His Excellency, the French Ambassador for the Seychelles. As a result of this collaboration and exchange program, local capacity has been strengthened in forest fire protection and preparedness. The fire services on Praslin are better able to combat and adapt to forest fires induced by climate change.

36. Regarding coastal areas, integrated planning for the North East Point of Mahé and nearby granitic islands area aims to transform the zone into an area which is resilient and can adapt to the effects of climate change. The plan also aims to adapt the zone to man-made stressors where the natural environment provides a well-managed landscape for recreation. Thus far, the Project has executed a five-year work plan, calculated budget, stated targets, key performance indicators, and an inter-organization sharing strategy. The coastal zone plan was approved by the Ministry and efforts are underway to transform the zone into a resilient area.

37. To make the Mahé coastal zones resilient, silt from the surrounding wetlands was removed, which has also helped with flooding. New culverts were installed to improve connectivity of roads and improved water flow. New vegetation was also added to improve the area's beauty. Finally, beach protection was installed in the form of bulwarks which equally limited access to cars.

38. It was suggested during the PMM that protecting against wave surges should be a consideration for future projects, including reintroducing hard structures and complex habitats to heavily degraded reefs. These projects could not only help increase biodiversity at the sites, but also promote tourism and provide fishermen with facilities. The facilities include jetties, breakwaters, and other structures which benefit residents and provide improved habitats for marine and coastal organisms.

39. Further projects could cover some of the cost for the restoration of marine habitats. The Transport authority already agreed to build bridges and residents were consulted on road relocation.

40. Related to coastal erosion, an ongoing study by the World Bank is looking at expenditures related to coastal adaptation and developing a strategy to finance coastal adaptation. More detailed costing of adaption measures is needed. All flood risk mapping data from the study was handed over to the Government.

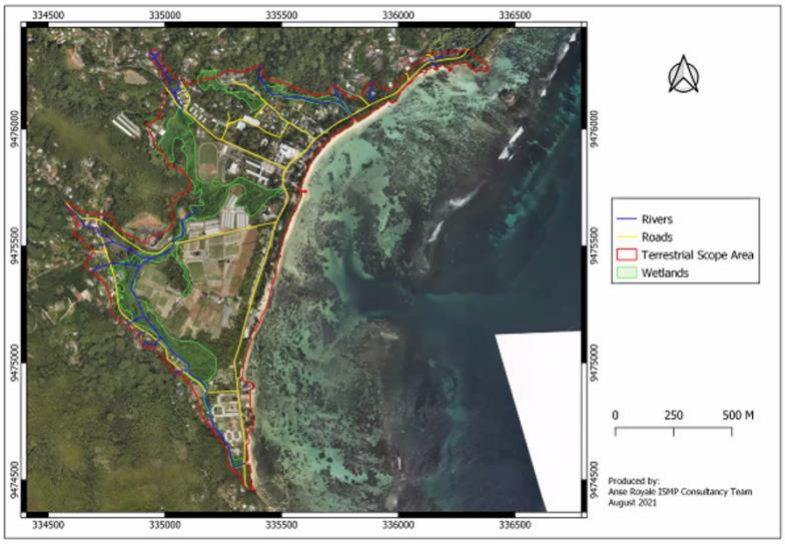

Figure 4: Coastal mapping helps better determine vulnerable areas, which may benefit from EbA efforts.

41. Regarding wetland rehabilitation, large gabions (elevated barriers filled with stone) were constructed in Baie Lazare to slow the flow of water and create an eco-friendly environment. These gabions were used to raise wetlands and anchor vegetation. All Gabion work was carried out 100 percent by residents. The gabions help native species colonize the area and attract insects and other species with new bodies of water. A post-project survey noted a 300 percent increase in biodiversity following the Baie Lazare gabion installation. Challenges included gaining permission of landowners, re-locating terrapins, and working only in the dry season.

42. Also related to wetland rehabilitation, a water resources survey has been the first step to updating the national database. Project participants first classify wetlands and consult the local population and historical archives. For example, the Mare-aux-Cochon wetlands were shown to have potential for rehabilitation. There is the possibility for wetland creation of 2.9 hectares with a 65 thousand m3 buffer storage capacity. The Project team used lidar to make a detailed study of the topography and conducted a geo-thermal analysis. This is a preliminary study for a future project, emphasizing the need for continuity. Challenges encountered include farmers abstracting water without a license and large presence of waste within the watershed.

43. The main challenges encountered by the Project include the following:

- Lack of support from local authorities – in some areas, local committees and authorities did not fully connect in their goals to protect watersheds.
- Landowner hesitation to allow work on land – Several landowners had been promised better access to water from previous efforts, so were naturally skeptical.
- Mindset on volunteerism – In some communities, working as a volunteer was a new concept, which took socialization to introduce.
- Sustaining local interest in the project – The volunteerism mindset is not always durable, and some local workers lost interest in restoration efforts.
- Managing expectations of communities – Some communities expected a large and quick return thus, expectations had to be managed related to modest gains in access to water.
- COVID-19 impacted activities – The Pandemic hindered many in-person meetings and work on projects due to local movement restrictions.
- Securing continuity of watershed committees beyond the Project – Some committees became inactive once initial restoration activities ceased.
- Lack of consultation on matters linked to watershed management – There was an occasional disconnect between Government data availability and the need to gather new data from project implementors.
- Overlap of Ministry work such as road enlargement – In some restoration areas, other infrastructure projects impeded on the newly created watersheds.

These challenges will be expounded upon in the following sections.

Data collection and rehabilitation through modern means speeds up efforts

44. For the Praslin Island watershed rehabilitation, data is collected using smart phones. The smart phone is also used to orient oneself spatially in the field. Once the data is collected, it syncs with the Geographic Information System (GIS) in the field. The metrics are extracted and used to better inform the restoration projects.

45. TRASS[1], which works directly with the Seychelles Project, focuses on restoring degraded water catchments using EbA methods and a database. They work on the island of Praslin's two largest water catchments: Fond Boffay (150ha) and Nouvelle Decouverte (341ha). They use a technique called strip clearing to plant native plant species requiring only three people. The technique also prevents erosion and encourages plant propagation on site and through nurseries.

[1] Terrestrial Restoration Action Society, a not-for-profit organization restoring burnt forests and degraded ecosystems of Seychelles Islands, committed to the restoration of degraded terrestrial sites in the Seychelles. It is the first environmental NGO based on Praslin.

46. TRASS has rehabilitated 5.1 hectares during its first phase (2016-2017) and 21.2 hectares during its second phase: (2019-2021). A total of 9683 plants were planted. During their two phases, all targets were reached.

47. TRASS also created the EcoResto database to better understand plant production and site planning and the Asana tool for project management. They also produced a rehabilitation handbook and video modules to document plant production in nurseries and onsite planting. TRASS acts as a guide to other NGOs and agencies to planting on exposed hillsides.

48. Limitations encountered by TRASS include the laborious process of strip clearing, weather constraints due to the rainy season, funding, and volunteer reliance. The sites also need constant maintenance to prevent invasive species of plants from returning and relying on donors and volunteers is not sustainable.

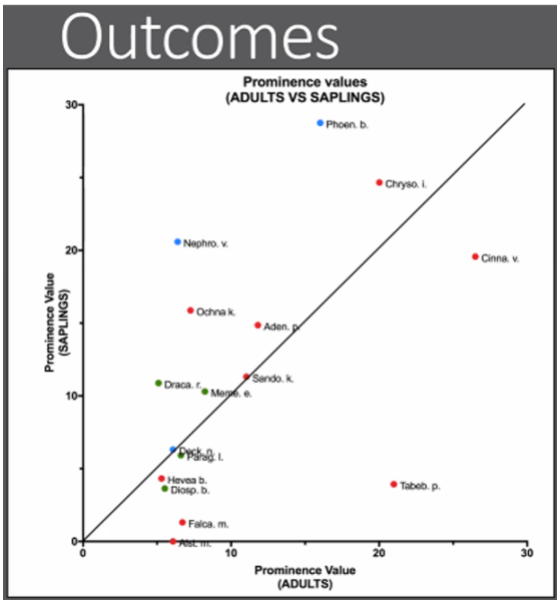

Figure 5: Results of data mapping regarding more efficient types of native tree saplings.

Watershed committees help ensure rehabilitation sustainability

49. Communities have been eager to help in the rehabilitation of watersheds. To facilitate local ownership and sustainability, watershed committees were created. Committees are generally small with 6-15 members and help with planning and community organization for the EbA rehabilitation efforts. Two committees in Baie Lazare, and Praslin have been registered as nationally recognized associations. This means they can act as an independent body outside of the Project and receive their own funding as needed.

50. Several watershed committee members were present at the Mission meeting site near Victoria and supplied first-hand accounts of their experiences working on watershed rehabilitation. Some noted that they were not initially used to EbA and NbS initiatives, but soon learned the benefits and were able to increase their knowledge of native fauna.

51. Another member noted how his land was always flooded, but since restoration of the wetland, there has been no flooding. Members also developed new skills, especially with stone works involving gabions. Quite a few of the committee members are youth and were instrumental in changing parts of Anse Royale from a dumping site to rehabilitated wetland. They consider their efforts as building new skills for life.

52. Committee members also helped include local farmers. Better access to water has helped farmers with their crops. Initially, they were hesitant to be involved in the Project, but eventually participated once results were seen. During community meetings, farmers were vocal about promises not kept from previous attempts before the EbA Project. Once they saw results, 99

percent of watershed rehabilitation in Baie Lazare was completed with local farmer involvement. Farmers now benefit from the increased water availability year-round in the Baie Lazare watershed, which is a predominantly agricultural district. This is a direct result of the improvement of the ecosystem services from the Project approach to wetland rehabilitation.

53. A Baie Lazare member commented on how she would like to see the work of the committees replicated throughout other districts. The same member also mentioned the advantage of working with other women, which gave her and her team a sense of empowerment.

54. A Mont Plaisir member and secondary school teacher involved his students and used the rehabilitated wetland as an outdoor classroom. He equally uses the Gabion technology at his own homestead. Other members emphasized how their committees have given them a voice within their community.

55. Finally, several of the members also worked with TRASS, which tackles rehabilitation work daily such as soil erosion prevention efforts in Praslin.

Figure 6: Community member explains her work to maintain a clean environment by reducing litter in watershed area.

56. Overall, the efforts observed by the committees have helped ensure the sustainability of the rehabilitation and adaptation efforts. The challenge being faced is how the committees will continue once the Project ends in March. Several of the committees declared they will stay formed after the Project's end. Additionally, the Ridge to Reef GEF Project will continue to work with committees and take over several project sites. A fully developed exit strategy will help to clarify specific mechanisms for the continuation of the committees and their work.

57. Concerning sustainability, more awareness is needed to maintain the forest canopy across Seychelles. This will limit light to the ground to help maintain forest cover for native plants. To achieve this, the forests need to be valued by the community. A strong canopy also helps prevent invasive species.

58. As the project is ending in March 2022, the need for an exit strategy was noted. Currently, there is a three-year maintenance agreement worked into contracts and maintenance is also taken care of through the annual Ministry budgeting exercise – recently submitted to the Assembly. It remains unclear if the seven additional sites referenced during the PMM were included. Currently, the Government maintains 60 wetland and river sites. There may be a chance to adjust the budget following the mid-year review.

Education and awareness efforts help to mainstream EbA and NbS into common practice

59. The University of Seychelles is using the project to help students measure water quality and pollution. The University focuses on best practices and uses them to form partnerships within the communities. It was emphasized that research is key to improve adaptation. For example, the University is using the sites for long-term research and has created a plant database to help with vegetation studies. Additionally, a mangrove restoration guide was developed by COMESA and used to teach students.

60. Land ownership has been an additional challenge related to general Project awareness. The Project Steering Committee works closely with the agricultural department to process landowner requests and broad-based stakeholder consultations. This process sometimes hinders progress at the sites. The majority of proposed rehabilitation sites were on privately owned land.

61. Work with the National River Committee has also created hinderances related to water abstraction. The Project Committees have found it difficult to communicate with the River Committee when sites are being established. The River Committee is part of the Public Utilities Corporation, which does not conduct regular meetings and must meet onsite for water abstraction issues. Project leaders also complained of the limited response from the River Committee. During the mission, the River Committee's role was better clarified – committee technicians meet on site for water abstraction and electricity infrastructure installation requests only. The technicians evaluate the potential site for its potential, as requested. The chair of the Committee is supposed to pass information to other key decision makers.

62. The EbA Project manager highlighted community social perceptions of forest rehabilitation. The results indicated 94.7 percent of the community support rehabilitation for protection of biodiversity. When it comes to working on sites, 70.6 percent would be willing to participate. A remaining challenge is the lack of training for forest rehabilitation workers and issuing work permits for needed contractors.

63. Various community approaches are used to raise EbA awareness. These include meeting with local authorities such as the district council, meeting with schools (important partners for the Project), and public meetings and surveys.

Figure 7: Dr. Daniel Etongo explains the benefits of University of Seychelles outreach programs and using students for field studies.

64. Capacity development includes training the watershed committee members in plant identification, equipping them with bookkeeping skills, and training in nursey management. The Project has equally held numerous workshops (including a media workshop in 2018).

65. Awareness building starts at the grassroots level and as a result, 99 percent of tree planting is done by the local community. Such an approach helps to set a solid trend and includes everyone such as the elderly, disabled, youth, and women.

66. Other education and awareness campaigns have included media campaigns, mini documentaries, and a national expo. There was a large fire awareness campaign planned for this year, but it had to be postponed due to COVID-19. Additionally, a wetlands enhancement manual was created along with other relevant manuals, which will all be handed over to the Government and partners at the Project's end.

67. Challenges with awareness remain such as a lack of support from authorities and project partners. Water management roles remain unclear, but the newly proposed national water policy with clarify this. The mindset on volunteerism can also be limiting, as it does not necessarily translate throughout every community. Several communities also have limited access to online platforms.

68. There is a shortage of legislative drafting expertise to find legislative solutions to address complex environmental, economic, and social concerns. This has led Government agencies and donor agencies to seek the services of consultant legislative drafters. Some of the consultants may be qualified as an expert on the thematic issues however, the consultant is usually not a skilled legislative drafter nor has experience in drafting legislation. The consequence is that that draft law may need to be re-drafted, which can be time-consuming and frustrating for staff at the Attorney General's Office.

LESSONS LEARNED AND RECOMMENDATIONS

69. **The Seychelles EbA to climate change Project shows that large scale rehabilitation projects that create or enhance existing ecosystems should return benefits to nature and society.** Projects like the EbA will not only benefit stakeholders, but also greatly increase the biodiversity, social, and tourism value of the islands.

70. **Involving a wide array of stakeholders at all levels and establishing communication between different agencies during the design phase increases the chance of success for a project.** For example, linking the watershed committees with the University of Seychelles students helps bridge gaps in knowledge and creates partnerships. Such partnerships can be used to showcase good practice within the community and academia. Additionally, solid frameworks need to be established for the committees.

71. **Research is key to improve adaptation.** Anse Royale has benefitted from watershed committee work related to the University's long-term research and involvement of secondary students. The databases created along with rehabilitation manuals adds to the research base.

72. **Involving all levels of society, from the elderly to youth, helps to build skills and enrich lifetime knowledge.** Such involvement equally creates partnerships, which may eventually lead to better maintenance of sites. This eagerness to maintain NbS efforts was noted

by the watershed committee members present during the Mission. A community-based participatory approach should be adopted early for more effective plans, strategies, and implementation.

73. **Partnering with other projects promotes continuity and builds trust of partners.** The Adaptation Fund project is a strong example of working with multiple partners such as the UNDP, Seychelles Government, COMESA, GEF, and TRASS. The project underscores the importance of fostering synergies and complementarities with ongoing projects. There is high potential for the climate resilience measures of the Project and Adaptation Fund and UNDP programs to be replicated in other watersheds in the Seychelles and to be scaled up within, and especially outside, the project area.

74. **More education is needed for the public.** In several areas, the wetland sites are not being used properly. Watershed committees should continue maintenance and public awareness with systemic support provided by the Government, especially regarding land ownership rights to help highlight the importance of the wetlands.

75. **Flexibility within the project design proved to be useful.** Under outcome number two, the concept of adaptive management was built in allowing for changes mid-project cycle. For example, it was discovered after the project began that small-scale reef rehabilitation efforts would not work. Fortunately, the project was able to shift to the salinity impact in area wetlands. Several project indicators were also found to be too broad or over-ambitious and needed to be re-designed.

76. **Watershed rehabilitation helped farmers during COVID-19 due to the disruption of supply chains and movement.** During the pandemic, Seychelles became reliant on local production and thanks to the improved access to water on Mahé and Praslin, local farm production was able to benefit the island residents.

77. **Steering committee roles should be clearly defined.** The Project Steering committee was initially fragmented, and it was found that continuous engagement with the committee was needed to make key decisions. Fortunately, the committee improved and remained functional throughout the Project.

78. **Further work is needed to implement EbA and NbS techniques across the 115 islands.** The adaptation techniques have shown to work at the selected sites however, these efforts are needed for a nation-wide use of the technologies. It can start with the local community who act as gatekeepers for the wetlands. Once behavior change occurs within the community, social-environmental change will follow. This may also occur as part of a business case for the Project so that successes may be leveraged into policy.

79. **The GEF Ridge to Reef project will take over EbA activities at Baie Lazare and Anse Royale.** The Project will also support watershed management plans and make sure the watershed committees are part of the consultation. If the national water bill is finalized and

adopted, much of the maintenance power will go to committees who will receive funds and continue the work. There is concern for areas outside the Ridge to Reef project.

80. **Forest canopy preservation is vital.** Maintaining the forest canopy on Mahé and Praslin is essential to avoid the destruction of native plant species. The canopy also ensures the future regeneration of mostly native species such as broadleaf and palm. For example, when the Indian Almond tree was preserved, it helped suppress invasive species. Literature reviews help to identify areas where the canopy benefits the islands the most. The planting of saplings is also important including establishing a baseline for what remains effective.

81. **A costed exit strategy is a must.** As noted previously in the report, the Project lacks an exit strategy, which is needed to clarify partnerships, handover procedures, and continuity. The exit strategy links with the need to broaden policy linkages to ensure bio-security policy and sustainable timber harvesting and land use.

82. **The local Seychelles communities have the desire to learn and be a part of adaptation.** Local communities are the archives of local and historical knowledge. Volunteerism within communities is also thriving and members remain a key asset in safeguarding natural resources. Additionally, the involvement of local communities ensures transparency and sustainability. For example, in Baie Lazare, local farmers became invested in the watershed restoration after seeing the benefits to their crops. All stakeholder and community involvement should be considered as part of the project design.

83. **Where foreign legislative drafters are concerned, it is recommended to have at least six months to a year contract for the person to be housed at the Attorney General's Office under their supervision and direction.** This reduces the need to have water or climate-related bills delayed.

84. **Strip clearing of land requires land preparation and is laborious.** Additionally, there are weather constraints during the rainy season, plus the activities are costly and volunteer reliant. Harsh conditions make clearing difficult and constant maintenance is needed. Strip clearing is not sustainable if relying only on donors and volunteers.

WAY FORWARD

The groundwork for EbA and NbS in Seychelles has been laid and moving forward requires the continued use of new technology, as demonstrated during this PMM. The Project evaluation will help ensure that a viable exit strategy supports sustainability. A clear handover definition for the rehabilitated sites is key, ensuring that enhanced watershed management is embedded in future projects. Clear financing should be included in that definition. The Project Steering Committee is also important to ensure continuity and should act as an important mechanism to promote long-term sustainability. Finally, all GEF, UNDP, and Adaptation Fund projects can learn from these EbA and NbS efforts and apply similar techniques.

Annexes

ADAPTATION FUND

ANNEX I

LIST OF PARTICIPANTS

Stakeholders	**Designation / Institution**
	Adaptation Fund Secretariat
Betty Victor Johan Mendez Rajelle Barbe Maria Monthy James Millett	**EBA Project Team** Project manager Geo-Hydrologist Community Engagement Specialist Forestry Officer Former Scientific and technical advisor
Amanda Serumaga Penny Stock Oksana Vovk Preethi Sushil Marille Benoit Lyndy Bastienne	**UNDP Team** Resident Representative, Mauritius-Seychelles Regional Technical Advisor UNDP Country Office UNDP Country Office UNDP Country Office Small Grants Programme
Minister Flavien Joubert	Minister for Agriculture, Climate Change and Environment
Minister Errol Fonseka	Minister for Internal Affairs
Wills Agricole	National Project Director for EBA project
Rebecca Loustau-Lalanne Dennis Matatiken	Principal Secretary Department of Climate Change Principal Secretary Department of Environment
Joanna Prosper Evelyn Drawec	**GOS-UNDP-GEF Ridge to Reef Project, partner**
Nanette Laure Marie-May Muzungaile	**Department of Environment** Director General, Enforcement, permits Director General Biodiversity, Conservation
Selvan Pillay Dr. Pugazhendhi Murugaiyan Jean-Claude Labrosse Annie Simeon Sophie Morgan	**Department of Climate Change** Director General Dept. Climate Change Principal Climate Adaptation Officer Principal Climate Adaptation Officer Senior Climate Adaptation officer CAMS Senior Policy Analyst for Water

Keven Nancy Linneta Joubert Dr. Nelson Charles Serge Larue	**Department of Agriculture** Principal Secretary for Agriculture CEO Chief Agricultural Analyst Senior Irrigation Officer
Joel Valmont Ginnie Laurencine	**Public Utilities Corporation (PUC)** CEO Water Resource Manager
Allen Cedras James Mougal	**Seychelles Parks and Garden Authority** CEO Terrestrial areas
Andrew Richard	**Public Health Authority**
Dr. Bruno Senterre Mariette Dine Vicky Stravens Theodore Marguerite Dr. Rachel Bristol	Consultants developing Invasive Creeper management framework, and NGO for forest rehabilitation in the Praslin Watersheds Consultants developing 4 Watershed management plans
Dr. Jude Bijoux Rodney Quatre Alain de Comarmond	Consultants who 19inalized Integrated shoreline management plan North East Point and developing and ISMP for Anse Royale
Dr. Michelle Martin,	Consultant / Workshop facilitator on climate change, CBOs, advocacy, sustainability.
Dr. Daniel Etongo Terence Vel	University of Seychelles, Researcher, Senior Lecturer Scientific Laboratory technician, Researcher
Peter Brinn	EU project partner GCCA + B project,
Audrey Zelia	FAO, Seychelles, COMESA project partner,
Angelique Pouponneau, Stefan Knight	Legal consultants drafting, finalizing the Water Bill legislation. Legal framework component
Jones Madeleine	Seychelles Fire and Rescue Services Agency Capacity building, adaptation to forest fire induced by climate change.
Aisha Rachel	Former University of Seychelles student, consultant, DRDM officer
Dr. Frauke-Fleischer Dogley	CEO Seychelles Island Foundation (Trust)

Marc Jean-Baptiste	Site Manager SIF
Valentina Vidot	Baie Lazare Watershed Committee Chairperson, Executive member
District Administrators	(Local Government, Districts benefitting from project intervention at project sites)
OBSERVERS	
AF Technical Evaluation Reference Group (AF TERG) Member AF TERG Secretariat	Susan Legro Caroline Holo Beryl Akoth Onyango
AF CSO Network Representative	
REPORT WRITER	
Mr. Marc Nielson	

ANNEX II

AGENDA

Adaptation Fund Virtual Portfolio Monitoring Mission in Seychelles with the "Ecosystem Based Adaptation to Climate Change in Seychelles" (EBA) Project

30th November – 2nd December, Eden Bleu Hotel, 1500hrs-1730hrs (Seychelles GMT +4) or 0600hrs – 0830hrs (EST)

0600hrs -0830hrs (EST)

30th November 2021: High Level Speakers		
Time (pm)	**Virtual session**	**Speaker**
3:00-3:05	Welcoming address	Mr. Mahamat Assouyouti, Sr. Climate Change Specialist Adaptation Fund (Mahamat to hand over to Betty to introduce speakers)
3:05-3:10	Opening remarks	Mr. Wills Agricole, National Project Director
3:10-3:20	Government of Seychelles opening address	Mr Flavien Joubert, Minister for Agriculture, Climate Change and Environment
3:20-3:24	Adaptation Fund Board Member opening address	Mr. Ibila Djibril
3:25 -3:30	Adaptation Fund Manager's opening address	Mr. Mikko Ollikainen
3:30-3:35	UNDP Resident Representative's opening address	Ms Amanda Serumaga, Resident Representative, UNDP Mauritius and Seychelles
3:35-3:45	Presentation - EBA project Team	Mr. Johan Mendez, Project Geo-Hydrologist
3:45-4:00	Q&A session – Virtual Panel	Moderated by Mr. Mahamat Assouyouti & supported by Ms. Thelma Pool
4:00	**Coffee Break**	
4:15-4:25	Presentation on forest rehabilitation in the Praslin Island watersheds, with partner NGO, TRASS, Invasive creeper management framework	Ms Vicky Stravens, Bruno Senterre, NGO, Terrestrial Restoration Action Society of Seychelles, Consultants

4:25:4:40	Q&A session – Virtual Panel	Moderated by Ms. Alyssa Gomes & supported by Ms. Thelma Pool
4:40-4:50	Presentation - EBA project Team	Ms Maria Monthy, Forestry Officer
4:50-4:55	Pre-recorded video – EBA project	Mr James Millett, Scientific Technical Advisor
4:55-5:20	Q&A session – Virtual Panel	Moderated by Ms. Alyssa Gomes & supported by Ms. Thelma Pool
5:20-5:25	Wrap up session – key takeaways	Mr. Daniel Etongo, University of Seychelles
5:25-5:30	Closing of session	Ms Betty Victor, Project Manager, EBA project

1st December 2021: Thematic areas, Experts		
Time (pm)	**Virtual session**	**Speaker**
3:00-3:05	Welcoming address	Ms Alyssa Gomes, Adaptation Fund, and Ms Betty Victor, Project Manager, EBA project
3:05-3:20	Presentation – EBA project	Ms Rajelle Barbe, Community Engagement Specialist
3:20-3:50	Q&A session – Virtual Panel	Moderated by Ms. Alyssa Gomes & supported by Ms. Thelma Pool
3:50	**Coffee Break**	
4:05-4:25	Presentation – EBA project	Mr. Johan Mendez, Project Geo-Hydrologist
4:25-4:35	Presentation – Coastal adaptation, Shoreline management plan	Dr. Jude Bijoux
4:35:5:00	Q&A session – Virtual Panel	Moderated by Ms. Alyssa Gomes & supported by Ms. Thelma Pool
5:00-5:05	Wrap up session – key takeaways	Mr. Daniel Etongo, University of Seychelles
5:05-5:10	Closing of session	Ms Betty Victor, Project Manager, EBA project

2nd December 2021: Community engagement, lessons learnt and COVID-19 impacts		
Time (pm)	**Designation**	**Speaker / Moderator**
3:00-3:05	Welcoming remarks	Ms Alyssa Gomes, Adaptation Fund, and Ms Betty Victor, Project Manager, EBA project
3:05-3:20	Pre-recorded video with Project beneficiaries part 1	Project beneficiaries and Watershed Committees
3:20-3:40	Q&A session – Virtual panel	Moderated by Ms. Alyssa Gomes & supported by Ms. Thelma Pool

3:40-3:55	Pre-recorded video with Project beneficiaries part 2	Project beneficiaries and Watershed Committees
3:55-4:15	Q&A session – Virtual panel	Moderated by Ms. Alyssa Gomes & supported by Ms. Thelma Pool
4:15	**Coffee break**	
4:30-5:00	Debriefing session between the AF, Ministry (IE), UNDP on the PMM	Adaptation Fund, Mr. Mahamat Assouyouti
5:00-5:05	Vote of thanks	National Project Director, Mr Wills Agricole
5:05-5:10	Closing remarks	Ms Betty Victor, Project Manager, EBA project

ADAPTATION FUND

ANNEX III

Key guiding questions in the targeted learning plan	
Mission objectives	**Key questions for various sectors covered by the project**
Objective 1: Collect lessons learned from concrete adaptation practices in the context of implementing concrete adaptation actions to maintain and restore the natural functioning of watershed and coastal processes.	*General questions* 1) How were the project's adaptation options selected? (e.g. based on previous experiences/ baseline studies/needs assessments/vulnerability assessments/ stakeholder consultations)? 2) Because of the longer time for NbS to accrue benefits, there are differential benefits and trade-offs. What incentives did the projects use to strengthen community support for the project? Was this factored into the planning phase? 3) What are the community-based adaptation approaches employed for piloting wetland and forest rehabilitation? Related to this what was the role of the watershed committee for sustainable management of the watersheds? 4) What are the positive impacts of the wetland enhancement program? 5) What steps have been taken to ensure that community benefits from a year-round water supply from the target wetlands, building the resilience of the farming community to climate-induced drought? 6) How is the project ensuring sustainability of concrete interventions such as the first gabion water retention wall was completed in 2018? 7) How is the project involving youth (students) in the various activities? 8) What steps have been taken to measure success of the water management structures, forest rehabilitation and other concrete

	interventions that are created that are expected to strengthen the capacity of the communities to adapt to climate change? 9) What are the measures in place to ensure sustainability of the concrete interventions? Related to the activity focused on removal of invasive species, what measures are in place to ensure that they do not grow back? 10) How are the projects benefitting and providing opportunities for local communities in decision making? 11) How do you convey lessons learned about adaptation interventions to decision makers at the national level? 12) Can you explain what are the main challenges the project implementation is facing considering the current pandemic, and the adaptive management measures the project is implementing / will implement? 13) What is the approach of the project to track, monitor, and measure outcomes to strengthen the evidence base for the effectiveness and efficiency of EbA? Where there any unanticipated challenges faced? How did the project resolve them? 14) What is the approach of the project to systematically collect and store M&E data? 15) Did the conducted Mid-term report help improve project performance and impact on the ground?
<u>Objective 2: Learn from the project's approach of increasing the adaptation capacity to climate change, including increased resilience to climate change and benefits for:</u> - The agricultural sector - Water supply for human consumption, food security and livelihoods	1) What have been the environmental and social benefits of the forest and wetland rehabilitation measures and saltwater mitigation strategies proposed by the project? 2) What were the most innovative options proposed through the project? How have scientific collaborations under the project

- Improving ecosystem services to increase resilience in coastal communities that are more vulnerable to climate change <u>Lesson from the expected specific interventions focused on:</u> - Forest and wetland rehabilitation - Gabion wall barrage - Small scale EBA reef rehabilitation measures - Integrated Shoreline Management Plan	strengthened of supported activities under the project? 3) How will the programme ensure continued collaboration with relevant scientific institutes? 4) How is the project ensuring that women, youth, and marginalized communities are adequately represented in project interventions to ensure sustainable production systems? 5) How is the project promoting rehabilitating native vegetation around wetlands to increase resilience and stabilize the banks and the gabion reservoir? 6) How has the project enabled buy-in from the Public Utilities Corporation to ensure sustainable water use? 7) What are the approaches for local capacity building (authorities, farmer associations, NGOs, and the private sector) in climate risk management? 8) What are the positive benefits of cost-effective EbA methods? 9) What are the positive impacts of the scientific methodology has been developed under the project to set technical standards for forest rehabilitation and monitoring?
<u>Objective 3: assess how EbA/ NbS approaches have been/ are being mainstreamed into development planning and financing through the project</u>	1) What is the approach of the project/s for the development of a scaling up strategy and how will success be measured? 2) What are the bottlenecks for financing quality local action at scale? 3) What are the barriers to upscaling NbS?

	4) How does the project aim to replicate the success of reservoirs in other sites that are vulnerable to coastal flooding? 5) What are the approaches employed by the project to increase national recognition of the importance of watershed and coastal ecosystems and their processes in adapting to climate change stress? 6) What kind of knowledge dissemination methods are being considered/ employed to facilitate replication and institutionalization of the community-based adaptation approaches? (i.e. a scale up strategy with key government sectors; capacity building programs for institutions and local beneficiaries). 7) How are activities carried out related to watershed monitoring system (through extensive mapping of watershed and rivers), reactivation of the rivers committee and the establishment of watershed committees contributing to the development of a national watershed monitoring system? 8) What are positive impacts of the development of a policy framework for watershed management? Has the project enabled both mainstreaming EbA into national adaptation efforts and development-related policies, budgets, and investment plans?