CAPACITY BUILDING TRAINING PROGRAMME

IMPLEMENTING NATURE-BASED SOLUTIONS FOR CLIMATE CHANGE ADAPTATION

Proposal for a joint SPC-SPREP programme

Background

PICTs must contend with ongoing developmental pressures in addition to growing pressures from risks associated with global climate change. PICTs however have a history of changes at the global and regional levels which not only created constraints but can be seen as a source of new opportunities for building resilience to climate change. How effective this process transpires in the end will depend on how well lessons learnt from preceding years are taken on board and effectively acted upon.

Strategies, planning systems and on-the-ground frameworks to increase community and ecosystems resilience exist, but the vehicle for implementing these initiatives such as mainstreaming environment into development, multi-use of data, provision of consistent guidance and early participation of the community needs to be reinforced to face growing climate change challenges. Furthermore, to be truly effective, NbS need to be integrated into regional and national development frameworks, scaled-up to have meaningful beneficial impacts, and expanded across multiple sectors[1].

Feedback and lessons-learned from previous capacity-building programmes conducted by SPC, SPREP and the PCCC and reports by the OECD[2] have allowed to identify the following main barriers to the implementation of NbS for climate change adaptation :

- Lack of national and policy frameworks for NbS
- Silo-ed national development governance
- Limited awareness of the importance of ecosystems and/or their importance to resilient communities
- Limited awareness of the role of ecosystems in meeting policy objectives
- Entrenched attitudes that grey or engineered solutions are superior to natural solutions
- NbS is viewed as too difficult to implement
- Limited access to finance for NbS
- Lack of understanding of the costs (and benefits) of NbS and how to offset the costs
- Low capacity and lack of staff of public authorities (local, provincial or gvt levels) in Oceania countries
- Few examples of NbS in the Oceania region and their benefits

The Kiwa Initiative is designed to address these challenges and increase the capacities of PICTs to access climate funding mechanisms and to mainstream NbS in local, national and regional policies to

[1] https://www.sprep.org/attachments/Climate_Change/pi_states_capacity_development_needs_on_cca.pdf

[2] OECD 2020. Nature-based Solutions for adapting to water-related climate risks. Policy perspectives. OECD Environment Policy Paper No. 21.

protect, restore, and enhance biodiversity in order to adapt to climate change impacts and to strengthen the resilience of their socio-ecological systems.

As part of the technical assistance they provide to the implementation of the Kiwa Initiative, SPREP and SPC, in close partnership with IUCN, will develop and deliver a joint capacity-building programme to help PICTs stakeholders lift some of the barriers they've identified as most pressing.

Strategic framework

This programme targets representatives from local and national public authorities and institutions, representatives from civil societies and communities, regional organisations, international and non-governmental organizations from the 19 Kiwa eligible ACP countries and French OCTs.

It seeks to build on lessons learned from relevant existing/recent capacity-building programmes, to propose efficient interventions responding to needs expressed by target groups, using adapted delivery methods and focussing on Kiwa added-value and where the programme can have most impact.

A preliminary regional capacity building need assessment will be conducted in consultations with representatives from main target groups to identify existing capacity, specific needs and priorities for capacity-building and most appropriate modes of delivery for each group.

The programme will be developed and delivered in coordination and collaboration with actors proposing relevant capacity-development activities in the region, promoting local expertise and building partnerships with capacity development programmes from donors and other major providers of support for NbS activities.

In addition lessons learned from SPC and SPREP capacity development efforts will be taken into account based on the latest evaluation conducted (Cf. annexes).

Strategic Approach[3]

- The strategic framework of the programme will be defined, in terms of topics (e.g. particular ecosystems, methods, implementation scale, cost-effectiveness), target audience, format, focussing on Kiwa added-value and where the programme can have most impact.
- Trainings will be practical, equitable, relevant, timely, and based on convincing case studies and best practices that are geographically, culturally,and thematically balanced.

[3] *To be confirmed and detailed based on the outcome of the regional capacity building need assessment*

- Peer-to-peer learning, mentoring, communities of practice, e-learning, and provision of material to enable self-directed learning will be explored within the Kiwa community and beyond.
- Coordination with compatible capacity development activities from donors and other major providers of support for NbS activities will be made.
- Activities will be supportive of efforts of managers from local communities and indigenous populations, and national government and private area managers.
- Opportunities to partner up and further support partners (NGOs etc.) organising relevant train-the-trainer activities in the region will be investigated.

First inputs/thoughts about the programme content : Mainstreaming NbS into policies and practices Components & Modules contents

- **Component 1:** Implementation of NbS as a tool for Climate Change Adaptation
- **Component 2:** Mainstreaming NbS in relevant sectoral and cross sectoral policies, strategies, programmes and practices
- **Component 3:** Sustainable financing mechanisms

Component 1 - NbS as a tool for climate change adaptation

- **Potential themes based on SPREP and SPC's areas of expertise**
  - **NbS DESIGN/GOVERNANCE**
    - Land-ownership issues when implementing NbS (e.g. customary land dispute, private owners engagement)
    - Implementing NbS in connected land-and sea-scapes
    - Lack of reliable, site-specific data
    - Cost-benefit & cost effectiveness analyses for NBS approaches
    - NbS monitoring and evaluation toolkit (IUCN Standard)
  - **EBA PLANNING TOOLS**
    - ESRAM: a participatory approach to assess vulnerabilities and adaptation options
    - PACRES EbA decision-support tool
  - **GENDER AND SOCIAL INCLUSION APPROACHES IN EBA AND NBS PROJECTS**
    - Importance for sustainability and fair solutions
    - Traditional knowledge/customary owners of the land
    - Building on SPREP work on Gender and Climate Change (PACC project and Gender Action Plan) + Gender division SPC
    - Presentation of the Gender and Rights-based cross cutting activities
    - Gender responsive EBA and NBS approaches
    - Practical exercise/debate with participants on how want to implement them

- **A FOCUS ON COASTAL AND MARINE EBA**
  - Coastal and marine ecosystem-based management and adaptation
  - NbS for community based fisheries
  - Practical examples of coastal and marine EbA activities

- **A FOCUS ON TERRESTRIAL/AGROECOLOGICAL SYSTEM – BENEFITS OF NbS IN AGRICULTURE AND AGROFORESTRY**
  - Land management and Agroforestery systems for climate change adaptation
  - Practical successful examples

- **INVASIVE SPECIES MANAGEMENT FOR CLIMATE CHANGE ADAPTATION**

Component 2 - MAINSTREAMING NBS AND EBA IN LOCAL, NATIONAL AND REGIONAL POLICIES

- **Integration of NbS into national policies**, building on the lessons learned from NbS projects in the region and the results from the feasibility study (developed by SPREP according to its Kiwa TA workplan)**:**
  - Mainstreaming NBS in decision-making processes
  - Towards a multi-scale governance of NbS-related policies
  - Sector-based and cross-sectoral approaches to mainstream NbS in local and national policies:
    - National Adaptation Plans
    - Examples of sectoral policies

Component 3 - SUSTAINABLE FINANCE PROGRAMME

- Building on NbS projects to identify, design and replicate innovative and sustainable NbS financing mechanisms
- Funding opportunities for NbS projects

Modes of Delivery[4]

Appropriate delivery modalities will be defined according to target audience needs and preferences, best practices and resources available. Options include:

- Online training modules (e.g. executive courses, open-courses, train-the-trainer)
- Peer-to-peer activities and mentoring
- Regional and national workshops

TRAINING OUTCOMES[5]

- **OBJECTIVES**
  - Participants have a better understanding of the benefits of NbS to adapt to climate change, the options in the Pacific and examples of implementation
  - Participants have a better understanding of challenges and tools for mainstreaming NbS in climate change adaptation and other sectoral policies
  - Participants are in better capacity to develop and participate in the implementation of regional projects on NbS for climate change adaptation and biodiversity conservation

- **DELIVERABLES**
  - Capacity-building gaps and needs analysis for NbS for CC implementation and mainstreaming in the Pacific region
  - Sets of recommendatons to identify, develop and implement NbS projects
  - Sets of recommendations to mainstream NbS in decision-making processes
  - Sets of recommendations to mainstream gender and human-rights based in NbS
  - Access to PCCC e-learning modules for participants
  - Training toolkit

Indicative Implementation calendar

Needs assessment: March-June 2022

Programme design: July – Sept 2022

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[4] *To be confirmed and detailed based on the outcome of the regional capacity building need assessment*

[5] *To be confirmed and detailed based on the outcome of the regional capacity building need assessment*

Programme delivery: Oct. 2022- end of 2024

Partnerships

The programme will be developed in coordination and partnership with major programmes capacity-building programmes:

- **NDC Hub :** Kiwa team (SPC & SPREP) will deliver an introductory module on NbS for climate change adaptation during the NDC HUB, Kiwa AND CFU Training Workshop: Access To Climate Finance and Nature-Based Solutions For Climate Change Adaptation (virtual, early 2022).

  PCCC: PCCC e-learning platform and material from its "Capacity Building on Climate Resilience in the Pacific programme" will be available to support the delivery of the programme.

- **PPIN MFAT**: Synergies will be sought with this program, funded by MFAT and with similar objectives, to avoid replications and identify opportunities to add-value to activities for programmes's beneficiaries.

  Kiwa regional capacity building need assessment will be developed and conducted in close partnership with IUCN to ensure complementarity with their upcoming PPIN capacity building need assessment. A sectorial and/or geographic split may be considered.

- **CRxN, Climate Resilient by Nature – DFAT/WWF program:** A 9.5 M AUSD program to deliver a portfolio of community-led ecosystem restoration and conservation programs in the Indo-Pacific region to boost biodiversity, sequestering carbon, and making communities more resilient to climate change disasters.

  Synergies with the DFAT funded program will be identify for the activites conducted in the Pacific region. Through this program, a group of regional NbS practitioners including WWF, IUCN, SPREP and SPC has been established and regular quarterly meeting will be held. Information exchange and cooperation is also foreseen as part of this partnership.

Annexes

1. SPC lessons Learned on capacity development efforts

a. Final report – Evaluation of SPC's Capacity Building – 2020

The main recommendations to improve the delivery of SPC capacity building activities are the following:

- **A framework for capacity building.**

It is **recommended**:

1. That SPC revise its definition of capacity building to include individual, organisational, community and systems level capacities.
2. That SPC develop a policy framework to guide its provision of capacity building.
3. That SPC develop processes to ensure that planning at program and Divisional levels incorporates individual, organisational, community and systems level capacities.
4. That SPL coordinate a process to identify changes to data collection systems to enable appropriate data collection and analysis for capacity building activities across individual, organisational, community and systems level.

- **Needs Analysis.**

It is **recommended**:

5. That SPC develop policy positions requiring needs assessment for all capacity building programs, including a requirement that capacities for individuals (knowledge, skills, competencies) be linked to assessment of appropriate organisational and systems capacities.
6. That SPL and MELnet work across Divisions to develop an agreed framework, and as far as reasonable consistent formats, for needs assessment.
7. That SPC pay greater attention to identifying and addressing the specific needs of women across all Divisions and work programs. This includes gendered analysis of training needs and identifying capacity building strategies and approaches to improve capacity building outcomes for women.
8. That SPC investigate strategies to address greater inclusion of people with disabilities and people from other vulnerable groups within its training programs.
9. That SPC investigate methods for strengthening learning outcomes and confidence for younger participants in its programs. This may include additional mentoring for younger participants after capacity building programs.

- **Delivery of capacity building.**

It is **recommended:**

10. That SPC formally considers whether to become a Registered Training Organisation and/or establish a Registered Training Organisation as a subsidiary organisation.
11. That SPC commission an independent assessment of the strengths, weaknesses and costs of becoming an RTO / establishing a subsidiary RTO. This should include but not be limited to an economic evaluation (most likely a Cost Effectiveness Analysis).

12. That SPC investigate options for recognition of prior learning as trainers for all staff regularly required to provide capacity building as part of their work role; and access to supplementary training where required.

- **<u>Assessment of learning outcomes.</u>**

It is **recommended**:

13. That all Divisions seek support in the development of appropriate competency assessment for accredited programs, and where appropriate for non-accredited programs.

14. That a strategy for resourcing EQAP to support appropriate competency assessment development, and SPL for supporting appropriate outcomes evaluation instruments, be developed.

- **<u>Feedbacks forms, monitoring and evaluation tools.</u>**

It is **recommended**:

15. That MELNet prepare a proposal and plan for development of common tools, and/or common 'base' tools that can be adapted for use across programs and Divisions, for approval by Senior Leadership. The plan should include priorities for development of common instruments over time.

16. That Senior Leadership support the development and use of common instruments to the greatest extent possible and reasonable, given the diversity of programs and intended outcomes of capacity building.

17. That SPC develop processes for systematic follow-up to ascertain the implementation outcomes of its capacity building programs. Follow up should seek to identify changes in practice by individuals, and changes in systems or processes for organisations and systems.

b. Final report – Evaluation of Capacity development efforts at FAME – June 2021

The main recommendations to improve FAME's capacity building delivery and outcomes at national level are classified in terms of (i) relevance, (ii) effectiveness and impact, (iii) role of PICTs, (iv) efficiency and sustainability, (v) gender inclusion and (vi) Covid 19.

Here are the main recommendations from Allen & Clarke who conducted the evaluation:

- **<u>Relevance</u>**

Continue providing capacity development with a mix of planned, regular courses and tailored support in response to specific country needs.

Planned, regular courses offer the best opportunity to capacity development. Resources can be used more efficiently, materials refined and improved over time, and broader relevance can be ensured. However, while responsiveness introduced a range of challenges, including for planning and efficient use of resources, it is highly valued by PICTs and considered an integral
part of FAME's overall value proposition.

Work in close partnership with Members, especially in relation to coastal fisheries.
The diversity of SPC's membership means that PICTs have differing levels of capacity and development. The character of training needs to recognise this and be tailored to meet the needs of specific local circumstances. This may mean, for example, focus on in-country group training, and bringing in specialist expertise where FAME lacks the relevant skills. In some instances, sub-regional level training may be appropriate, where common issues are being faced.

Use regional frameworks for longer term planning.
Recognising that there are multiple drivers for FAME's work, it should make greater use of regional frameworks and strategies to guide its medium-term planning. This, blended with FAME's regional knowledge, would enable it to extend the planned time horizon for scheduling support at national level, and identify future skills required in house to meet these needs (e.g., through donor support)

- **<u>Effectiveness and impact</u>**

Enhance the monitoring and evaluation framework.
The report proposes a set of enhancements to FAME's practice in Monitoring, Evaluation and Learning. This involves identifying clearer objectives for specific capacity building activities, improved tracking over time (in its database), and greater feedback loops to improve delivery.
This should involve both the MEL team but also the FAME providers of capacity development.

Approach 'training' as a specialist skill.
The review found that the quality of training/ trainers made a significant difference to participants' experience and learning outcomes. FAME should recognise this and provide training for its staff (especially new staff) to improve presentation and communication skills in a Pacific Island context.

Refresh staff understanding of the SPC privacy policy, and ensure implemented consistently.
As the monitoring and evaluation framework is enhanced, it is increasingly important that FAME's privacy practices are well implemented. The evaluators raised some instances where this was not the case. Consultants recommend that staff receive refreshers on the policy and its implementation is improved.

- **<u>Role of PICTs</u>**

Focus on trainee selection and feedback.
Home government managers of training participants should ensure that staff are selected for training that matches their role, experience and potential career path. Clear expectations of trainees should be set ahead of courses and steps taken to enhance accountability. This could be achieved through mechanisms such as implementing presentations upon returning to the workplace or other avenues to share learning.

- **<u>Efficiency and sustainability</u>**

Increase the focus on costeffectiveness.
The costs of training, on a per person basis, vary significantly under different modes of delivery. While we support FAME seeking the best training outcomes, and selecting the modality best suited to achieve this, we also encourage FAME to consider the relative costs of different methodologies in designing capacity development programmes, to ensure that capacity building programmes are delivered efficiently. It is clear that working face-to-face improves the effectiveness of many types of training, as well as having wider benefits in terms of networking and regional coherence. However, COVID-19 has shown the cost savings possible with remote technologies, as well as providing the clear signal that some types of training can be delivered effectively through remote (virtual) learning.

Build on experience with on-line training.
As an opportunity to improve efficiency and effectiveness, FAME should consider providing more refresher courses online. These are best suited to the updates to the regular courses that are focused on more technical knowledge, but less well suited to capacity development focused on teaching practical skills. This can be a time-efficient way to keep skills current. FAME should also record more capacity development sessions for rewatching.

Enhance intra-FAME coordination.
FAME should also enhance communication across its two programmes and respective sections, so that staff have a greater awareness of each other's work and schedule. This need has been increased due more on-line training, which can lead to different programmes/staff simultaneously scheduling virtual events with the same incountry staff or teams. This improved coordination should extend to the MEL team, to ensure that there are strong links between monitoring/evaluation and the work of the technical teams.

Increasingly partner with other providers.
FAME should explore opportunities to partner more with local (national) institutions, including educational institutions and NGOs. This can be cost effective, further enhance local capacity in the sector, and increase sustainability.

Heighten intra-Pacific cooperation.
FAME should actively seek opportunities to support or broker intra-Pacific cooperation in training and capacity development

- **Gender inclusion**

Continue to implement the recommendations of the FAME Gender stocktake.
Building off the work of the Human Rights and Social Development Division and progress made to date, FAME should continue to implement the recommendations of the FAME Gender stocktake. This will advance gender mainstreaming across the Division, improving outcomes for all participants (male and female alike). Within this, recruiting a social scientist would be valuable for improving

gender analysis as well as enabling wider understanding of the effectiveness and impact of FAME's other programmes. For instance, it would enable better
understanding of the direct livelihood impact of certain types of training.

Improve outcomes and raise participation for women, youth and marginalised groups.
Increased gender and social inclusion is known to improve capacity development outcomes for both men and women, and produce more sustainable results. To support these outcomes, FAME should develop strategies to improve gender participation, including in areas with lowest participation rates. FAME should also refresh course materials to ensure they incorporate gender representation and perspectives. Limited data is gathered by FAME on the inclusion of people of vulnerable groups. In the absence of such data, it is difficult to assess the outcomes for these groups. FAME should begin collecting such data to fill these gaps and assess whether there are barriers to participation for marginalised or socially disadvantaged groups.

- **Covid 19.**

Build off the COVID-19 step-change.
COVID-19 has catalysed a sudden and substantive shift in attitudes and capacity to use online training and resources. To build on this FAME should invest in producing more online materials, videos, and appbased systems. This has the potential to address some challenges of distance, and to improve efficiency and sustainability. FAME should also explore practical steps to improve engagement for online training, such as sending materials in advance to minimise impacts from internet disruption and working with organisations to ensure access to adequate facilities.

2. Feedback from participants to the EbA/EbM in coastal and marine ecosystem training part of the PCCC and JICA Capacity Building on Climate Resilience in the Pacific (August 2021)

The following information is internal to SPREP and has been shared by the PCCC and JICA specifically for the purpose of the development of the Kiwa Capacity-building programme, please do not disseminate further.

Discussion Topic: Please discuss the most significant climate change impact on ecosystems in your countries/territories.

There were 39 responses from participants (as of 8 August). The climate hazard and impacts on ecosystems summarized as follows:

higher risks and chances of tropical cyclone
- Decrease coastal resources due to the damages of frequent cyclones - Major river bank erosion in some areas which lead to flooding in low lying areas which leads to loss of coral reefs that allows marine species to move to other areas where they are able to survive

- Coastal erosion which affect coastal marine habitats - Devastation not only to people homes and infrastructure but also to forests, plants and animals. This has a negative impact on people livelihood and food security - Many coastal communities have been relocated because of coastal erosion and saltwater intrusion caused by the cyclones. Some marine ecosystems have also changed their habitat - Some of the coral reefs were destroyed. Majority of the destruction were cyclone-based and signs of scarring in the coral reefs due to change in ocean's pH and temperature level were found as well amongst other factors. It is also good to note that some damages were hypothesized to be from older cyclones but with new scarring and damages from recent severe ones - Cause a lot of damages and changes to marine plants and species, wildlife, forests and the environment - The mangrove ecosystems in the island's lagoon, and the entire ecosystems, were destroyed by a category 5 tropical cyclone Pam in 2015. The area is the only breeding site for fish, crabs, shells and other marine species in the island before the cyclone, and shortage of fish and other marine products in the area decline in other species are now noticed. - With the support of the community leaders, replanting of mangroves have started in trying to regain the mangrove ecosystems in the island.
tropical cyclone and long time period of EL Nino and La Nina
- Damage of crops or healthy forests and mangroves during a tropical cyclone that later speed up spread of invasive species like Merremia peltata and other invasive species of flora and fauna
sea-level rise
- The island was a turtle and bird nesting area. Presently, it is sitting under approximately 1.5 m of sea water. - Increases in coastal erosion and coastal inundation, increased exposure of beaches to wave action (as coral growth lags behind sea'-level rise), and in some cases the retreat of mangroves. - Retreat of mangroves which will lead to costal erosion. - Coastal erosion which also has significantly impact on most of the food source at the coastal area - Coastal erosion and coastal inundation, increased exposure of beaches to wave action (as coral growth lags behind sea'-level rise), and in some cases the retreat of mangroves - Saltwater intrusion into a freshwater system force some key species to relocate or die, thus removing predators or prey that are critical in the existing food chain. - Salt water intrusion into taro patches which causing food security a major issue in the outer island. - Soil erosion and sea water intrusion on crop plantation and low lying areas. Sea level rise is extremely affecting coastal areas and even land areas. - Inundation of low'-lying areas and barrow pits where local crop like taro and pulaka (local root crop) are overflow with saltwater, thus causes the infertility of soil for the growth of local crops and other species in such fields.
changing rainfall pattern
- Negative impacts on marine ecosystem which causes sediment end up eroded the marine ecosystems. - Changes in the flowering and fruiting of some terrestrial plant species affecting the distribution of birds and animals as well as humans - Longer wet season affects crops that are favorable in very dry weather or too little rainfall or longer dry season in drought season it affects crops that favorable in wet season - Decreasing precipitation regimes will lead to ecosystem transformation, biodiversity loss, contraction of watershed area, and loss of freshwater lens. Increasing precipitation will have largely positive impacts in freshwater ecosystems where they maintain intrinsic integrity. -Threat to our fragile water ecosystems and resources plus the flora and fauna that lives within these habitats.
increase of air temperature

- Force species to migrate to higher latitudes or higher elevations where temperatures are more conducive to their survival. - Forced some coastal plant species to shifted their geographical ranges. For example, coconut trees (coastal plain species) can now be found in cool mountainous regions. - Some of our native species are now extinct and some have migrated. - For the land ecosystem, the forest health is affected, as some trees are unable to produce at the usual production and some die due to the increase of temperature. - Develop pests and diseases affecting human health and crops or plants health.
precipitation and temperature patterns change
- Make forests more susceptible to invasive species and fire, and lead to broad ecosystem shifts or complete loss of habitat. Endemic species and atoll species have a higher risk of extinction. The species which are already degraded by non'-climatic threats will be increasingly vulnerable to climate change - it causes attitudinal shifts of plant distribution, this has caused many rural areas to lose water from natural springs. It has also unable traditional farmers to predict the best time to start cultivation.
increase in sea surface temperatures
- Increase in coral bleaching. This, together with the lag in coral growth, may lead to a reduction in sediment production necessary for maintaining shoreline stability. Coral bleaching is also likely to have adverse effects on coastal biological diversity and fisheries - Coral bleaching leading to the disruption of homes for some of the marine species we have here on the Island - Although the coral bleaching has not yet at an extreme spreading stage, there is no sign of slowing down. This is troubling because dying corals will lead to an entire reef ecosystem to deteriorate on which our local people depend on for food security. - The exposure of coral reefs, seaweeds and other marine organisms caught in a stagnant area at peak of low tide are most likely to die out. - The marine ecosystem has cause migration of other living species to migrate elsewhere causing the drop in daily protein of the ecosystem. - Coral bleaching leads coastal inhabitants to migrate into the deeper place which cause fisherman hard to catch fish. - Combined with the increased runoff carrying terrestrial sediments have also caused coral bleaching in the coastal areas.
ocean acidification
- Greatly impact the corals to die and this alters the entire cycle of the marine ecosystem and as a result this may lead to species to relocate. - Impact the marine ecosystems in many ways such as affecting their ability to grow, respire, and reproduce, and also disease becomes more likely. As the ocean acidification increases, coral reefs become degraded thus they will not be able to function as vital feeding grounds for many fish species. Due to the less amount of carbonate ions (a vital building block in calcium carbonate shells and skeletons), the marine organisms may find it more difficult to form their shells and their existing shells may start to dissolve. - Lead to coral bleaching and have affected the marine species.
increase in both surface temperature and acidity levels
- Coral bleaching and die'-off and out'-migration of fish species critical for food security, such as deep'-water tuna, that are migrating to higher latitudes and away from Niuean waters
ocean acidification, rising sea temperature, sea level rise
- Accelerate degradation of coral reef ecosystems over the coming decades. Many coral reef ecosystems may lose the structural topology of reefs fundamental to ecosystem service provision - slowing growth rates of marine ecosystems - making them more vulnerable to predators and decrease their ability to survive.

acidification of the ocean and storm surge
- Some marine species have been decreasing in numbers (some already extinct)
human settlement on the coastal areas by natural disasters and impacts of climate change
- Increased fishing pressure especially destroying and removal of mangroves and other coastal vegetations. This however, cause coastal erosion and general long term loss of terrestrial and marine habitats and species

Discussion Topic: Whether ESRAM has been implemented. What difficulties and/or possibilities are identified.

There were 30 responses from participants (as of 8 August). The discussion of implementation of ESRAM and related difficulties and/or possibilities are summarized as follows:

Implemented ESRAM	**[DIFFICULTIES]** (data) - Site-specific data were not available in many cases - Data collection; most of the communities members give false data, and this lead to the main challenge for this assessment is to improve training and finance fund for this project to achieve it output. - The availability of GIS data would be the second most important issue that would come about when conducting ESRAM assessment. This is because GIS tools and applications has just been introduced lately. - the collection of information and data from women and youths will be difficult as usually the village elders are to give permission and usually the data and information collected are not from all the targeted audience. - the availability and collection of spatial datasets. (language) - Language barrier would be listed as one of the challenges faced when conducting assessments of this kind especially if the Assessment Team does not include any locals. When working with communities, language barrier is always an issue, this is due to the low literacy rate. - when someone conducting the assessment does not speak the community language, so the answers you get may be not reliable. (execution, procedure) - Administrative challenges faced in managing these resources sustainably - for example the challenge of managing 'connected landscapes' as discussed in chapter 5. - not having a proper process and a standard procedure and criteria in place for such assessments to be conducted and translating the message that such assessments are important - People in the communities which we mostly target for such assessments most times does not see the importance and benefit of the assessment and may be reluctant to participate.
Implemented other tools (e.g IVA)	**[DIFFICULTIES]** (data) - data collection - collection of data from the four states given their geographical location and accessing to some of the most vulnerable outer islands given our limited marine transportation. (execution, procedure) - The timing; this assessment is very lengthy and it needs ample time with the community to properly discuss and point out the vulnerability issues. - The availability of resources in terms of finances (redirection due to corona) capacity and given the scattered islands.

	- getting accredited consultants to carry out the EIA to ensure reports are development specific and not desktop studies. - the lack of community support and knowledge with lack of good environment practices are not followed. For instance, communities tend to overuse and dispose rubbish in the area. - to customize the tool so that when surveyors carry out the actually assessments in the communities, the end report must reflect or capture real issues on the ground regardless of different localities and geographical settings.
	[POSSIBILITIES] - Stakeholders have developed similar assessments. - using the ESRAM assessment will be such a handful tool as well that will contribute a lot in collecting data information base on, five targeted development - one of its enhancement is for - CIS communications, knowledge products, tools, and resources for practical application to development processes - it will also need a GIS analyst that will also contribute in an ESRAM assessments, especially in mappings.
Not implemented	**[DIFFICULTIES]** (execution, procedure) - there are quite a lot of resources needed (e.g. finance, capacity, technical expertise, logistics etc.) given the remoteness and scatteredness of the islands.
	[POSSIBILITIES] - People have experienced so many type of hazard in the past like flooding, tropical cyclone etc., started to work together to help them improve their resilience, and raising awareness. They will accept assessment like ESRAM to improve their socio-economic status or build a Risk map for the community.

Discussion Topic: One barrier when adopting Ecosystem-based adaptation/mitigation measures in terrestrial and freshwater ecosystems of your countries/territories.

There were 27 responses for 2.1 from participants (as of 8 August). The summary of discussed barriers are summarized as follows:

Resources
- limited access to funding. - the limited of resources. - lack on environmental resources that can be climate proofs to maintain the ecosystem - most government sectors dealing with addressing climate change impacts do not know where to access these funds from
Data, information
- the lack of baseline data and monitoring. There are gaps in information or limited information in site specific areas that hinders ecosystem-based adaptation programs. - site-specific data were not available in many cases. - not being able to have access to data or information or data/information is not updated on a particular area. - lack of baseline data to guide an efficient implementation of EbA and EbM practices - land ownership where this is also sensitive issues with single and multi-family members ownership.
Land ownership
- unclear status of land and trees resources, many of the projects are delayed because of confusion of land rights and delineation which can discourage agencies or development partners in implementing the EbA to continue.

- coastal or land boundaries are not clearly defined most times which may caused threat or delay in implementing planned activities.
Execution
- mismanagement of Trees in the restoration site. - lack of monitoring to ensure the sustainability and the success of the program. - failure of providing follow up supports or scaling up efforts from the sponsored entities attribute to the communities loss of interest on the importance of saving the ecosystem. - not considering or even carrying out a prior study to determine tree species that are well-suited for specific type of soil or on Non-Timber Forest Products (NTFPs) with significant ecosystem services. - financial support couple with the stable technical capacity within government departments to advise communities on EbA and EbM opportunities and the compatibility of planning frameworks - Traditional ways of doing things may conflict with development, in particular the land dispute issue. it is important to allow the community to take full ownership of the project - The capacity to develop project proposals, finding the right Accredited Entity to work with, meeting the AE's requirements and most times projects have to be a regional ones. - not carefully designed and planned with poorly defined goals - lack of regular monitoring of the EbA/EbM projects which are initiated
Stakeholders
- the lack of strong “buy-ins” from the community members. - projects ended in failure because there were not enough education and training to boost the communities’ interest and knowledge on the importance of sustaining and protecting the ecosystem - A good momentum of collaboration between all relevant sectors is important for initiative to be successful and sustained. - Community is not well trained on maintaining the program, and grazing is uncontrolled, in which results in an unsustained effort. - lack of Government sectors valuing the importance of prioritizing ecosystems-based activities in our communities - the short-term perspectives expected by local communities. The understanding that nature-based solution is a process that takes years to be realized is poorly understood at the community level

1) Module 2.2 – Discussion Topic: One barrier when adopting Ecosystem-based adaptation/mitigation measures in marine and coastal ecosystems of your countries/territories.

There were 21 responses for 2.2 from participants (as of 8 August). The summary of discussed barriers are summarized as follows:

Resources
- lack of available baseline data - the information gaps and socio-economic, cultural, political and other reasons can prevent the full applications of the key principles
Data, information
- lack of available baseline data - the information gaps and socio-economic, cultural, political and other reasons can prevent the full applications of the key principles - the knowledge and information of the migratory marine species and accounting for it when putting any EbA/EbM measures in place.

Land ownership
- customary land dispute
Execution
- administrative challenges: enhancing the government's capacity and consistency to manage resources in connected landscapes, to assist organizations guide on how the many types of planned activities can include elements of protecting and enhancing ecosystem services and to build long term resilience into management decision-making. - Communities and government entities see projects come and go, depending on the focus of the implementing entity, shifting governmental priorities, and limited provincial government resources. - inadequate use of spatial planning tools, coordination between agencies - the technical capacity and knowledge about the specific location which will help in determining the specific intervention method. There are certain EbA interventions which are not properly planned, thus, partly addressing the intended issue but creating more issues - conventional measures that do not effectively incorporate climate change impacts and projections - uncoordinated hard infrastructure building along the coast - COVID-19 has also contributed as a barrier as it has given a hold on adaptation and mitigation projects" -the limited knowledge and skills to understand this field - EbA/EbM is an on-going process before one can realise the impacts. Poorly understood by rural communities who perceived short term perspectives only - After the planting of mangroves in the coastlines, monitoring and maintaining the seedlings until they are mature enough is lacking which subsequently result in the mortality of the planted mangrove.
Stakeholders
- lack of awareness raising and education - the discernment of the communities to the projects. If proposer consultation is not carried out the Mataqali/traditional landowners will not give permission to carry out the project thus hindering the project timeline and objectives. - poor community consultations and community involvement and lack of support from the national government (both human and financial) especially with projects that were funded by NGO's - wide range of options need the support of all the parties involved in the marine and coastal management of the area - involving private owners of properties residing in the area and meeting legal requirements to enter private properties

Discussion Topic: why EbA interventions are cost-effective but require long term indicators.

There were 17 responses from participants (as of 8 August). There were following inputs on cost-effectiveness and long-term indicators.

Cost-effectiveness
- We use the nature or the environment around us to support the adaptation measures required and not much funds are used to buy equipment or chemicals for example. - That span many of the global challenges the SDGs seek to address, optimizing synergies and reducing trade-offs like for instance SDGs 14 and 15 – 'Life below water' and 'Life on land'. '- They offer several advantages to the ecosystem include benefits to humans. For example an EbA measure in addition to reducing climate change related risks, may also provide additional benefits

such as storm/flood mitigation, food sup==========ply and other nourishing services, species habitat.
Long-term indicators (and other challenges)
- It will take a while to adapt to climate change and in the process. - A lack of consensus on how to measure the success of this approach. - Their monitoring and evaluation (M&E) is crucial to assess their effectiveness. - We deal with nature that is already been expose to threats and severe climate impacts which will take long term to be physically effectiveness and restoration. - engaging youths and other organization to build solid partnership and strengthen support on climate resilience and adaptation keeping in mind the long term indicators to adapt to climate change. - It will take a while for people to actually see its impacts as we follow the timeframe of how our nature and ecosystems grow, multiply and change over time, therefore require long term indicators. - Nature takes years even decades to fully reach maturity and maximize its potentials and benefits. - It will need to consider appropriate timeframe that can track change or monitor the effectiveness of the project in relation to the chosen objectives overtime. - It takes years even decades to fully reach maturity and maximize its potentials and benefits. - The lack of hard evidence of the physical effectiveness of EbA measures in responding to climate hazards and meeting adaptation goals. - Limited information about the exact processes through which EbA can generate wider co-benefits. - Planting of trees, nurturing the corals, and others require long time to grow therefore It will need a consistent monitoring until the efforts truly show the outcomes expected. - Need a lot of financial support to carry out the EBA interventions.