CBCRP-PCCC Training Course

GENERAL INFORMATION

"Ecosystem-based Adaptation and Mitigation"

23 June – 28 July 2021

This information is with regards to the above-mentioned PCCC training, which will be implemented virtually as part of the Project for Capacity Building on Climate Resilience in the Pacific at the Pacific Climate Change Centre (CBCRP-PCCC). The project is based on a bilateral agreement between the Government of Japan and the Government of Samoa in cooperation with the Pacific Climate Change Centre, which is being hosted by the Secretariat of the Pacific Regional Environment Programme (SPREP) in Apia, Samoa.

PCCC:
The Pacific Climate Change Centre (PCCC) was pledged by the Government of Japan at the Seventh Pacific Islands Leaders Meeting (PALM 7) in 2015 to respond to a number of needs on climate change in the region. With its strategy and business plan, the PCCC will deliver four mutually reinforcing functions: knowledge brokerage; applied research; capacity building through training and learning; and supporting innovation.

CBCRP-PCCC:
The Project for Capacity Building on Climate Resilience in the Pacific (CBCRP-PCCC) which is delivered jointly by SPREP, the Government of Samoa and the Japan International Cooperation Agency (JICA) aims to support the operationalization of the capacity building and training functions of the PCCC and contribute to the expected outcomes of the business plan.

I. Description of the Training Course

1. Background

The Paris Agreement's (PA) main aim is to strengthen global response to the threat of climate change by maintaining global temperatures well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit temperature increase to 1.5-degree Celsius. Its implementation commenced in 2020, and Nationally Determined Contribution (NDC) updates and the National Adaptation Plan (NAP) development and implementation, integral aspects of the PA, are being strengthened.

The Intergovernmental Panel on Climate Change (IPCC) reports on 1.5 degrees, land, and ocean revealed that further risks are anticipated for many regions and systems. For Pacific island countries and territories (PICTs) rising sea levels, changing weather patterns, ocean warming and ocean acidification impact all sectors of the economy. In addition, island resilience is affected by several non-climate related factors such as pollution, and inappropriate land and coastal developments that impact negatively on island ecosystems resulting in ecosystem degradation, loss of ecosystem services and biodiversity. PICTs are reliant on local natural resources for maintaining economies and community livelihoods and socio-cultural values, and ecosystem-based adaptation and mitigation are particularly relevant to their communities and economies.

PICTs have implemented pilot projects using ecosystem-based approaches for climate resilience. Ecosystem-based Adaptation (EbA) seeks to harness healthy ecosystems and biodiversity to strengthen social and ecological resilience by addressing a wide range of vulnerabilities to climate change. As for mitigation, several countries plan to contribute to reducing GHG emission through reforestation. Maintaining values from ecosystem-based approaches are the key to enhancing effectiveness and sustainability of outcomes of the current and planned projects and initiatives, active engagement and continuous participation of beneficiaries including local stakeholders including communities.

This training program is expected to contribute to successful implementation and scaling-up of ecosystem-based adaptation and mitigation action in PICTs. This training program provides opportunities to review the options of ecosystem-based approaches of terrestrial, freshwater, coastal, marine ecosystems as well as cross-cutting options, and particularly to discuss and consider important themes: co-benefits of options and how they are analyzed; outcome indicators and means of verification which are feasible for communities and local economic actors; and major barriers to and enablers of scaling-up of ecosystem-based approaches.

2. Course objective

The overall goal of the CBCRP-PCCC training courses is to enhance capacities on climate resilience in the Pacific region.

The virtual training course on ecosystem-based adaptation and mitigation under the CBCRP-PCCC aims to:

- Enhance understanding of climate risk, vulnerability of ecosystems to impacts of climate change and key issues and considerations to assessment methodologies, design, implement and scale up ecosystem-based approaches for climate resilience; and
- Develop skills to prepare problem and objective trees and logical frameworks to contribute project development.

3. Target countries and territories

American Samoa, Commonwealth of the Northern Mariana Islands, Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna, and Timor-Leste

4. Eligible / target participants

It is expected that officials and practitioners of governments and non-government institutions including the private sector, who are working in the unit of ecosystem management and the unit of climate change, will join this training program. The maximum number of participants per country is eight (8). We encourage gender diversity and kindly request that the nomination is gender balanced, where possible.

5. Language to be used in the programs

English (Note: English-French translation will not be available)

6. Training modules

The training modules are as follows. Please see annex for detailed agenda.

1. Understanding of climate risk and vulnerability of ecosystem
   1.1 Climate and non-climate impacts on ecosystem
   1.2 Basic knowledge of vulnerability assessment of ecosystem

2. Ecosystem-based adaptation and mitigation
   2.1 Terrestrial and freshwater ecosystems
   2.2 Marine and coastal ecosystems
   2.3 EbA Implementation: Cross-cutting Issues and Approaches

3. Problem and objective trees, and logical framework

3.1 Project objectives
3.2 Exercise

7. Schedule of the training programs

The training consists of the following module and will be delivered from 23 June to 28 July 2021.

Week 1-2 (23 June – 6 July)

i) Self-paced learning on Module 1-2

Participants are expected to learn from training materials and relevant resources at the PCCC E-learning Platform. Q&A and discussion forum will be also available.

ii) Live summary lectures & Q&A

Experts will provide short summary lectures of Module 1.2 and Module 2. The tentative schedule is as follows.

Date and Time (Apia)		Countries (Local time)
6 July, Tuesday	1-3pm	All countries: Palau, Timor-Leste (9-11am) PNG (10am-12pm) FSM, Solomon Islands, Vanuatu (11am-1pm) Fiji, Kiribati, RMI, Nauru, Tuvalu (12pm-2pm) Samoa, Tonga (1-3pm) Niue (1-3p, on 5 July) Cook Islands (2-4pm on 5 July)

Week 3-4 (7-21 July)

iii) Group exercise

Participants of the same country/territory are expected to gather as a national group, and discuss and prepare a problem tree, an objective tree and logical framework on ecosystem-based adaptation and mitigation. Problems are selected from their relevant policies and strategies.

Deadline of outputs submission is 21 July for review by experts.

Week 5 (26-28 July)

iv) Live consultation

Consultations with experts and other participants to review the exercise outputs. The tentative schedule is as follows.

Date and Time (Apia)		Countries (Local time)
26 July, Monday	2-4pm	Timor-Leste (10am-12pm) PNG (11am-1pm) Solomon Islands, Vanuatu (12pm-2pm)

		Fiji (1-3pm)
27 July, Tuesday	1-3pm	Tuvalu (12pm-2pm) Samoa, Tonga (1-3pm) Niue (1-3pm on 26 July) Cook Islands (2-4pm on 26 July)
28 July, Wednesday	2-4pm	Palau (10-12am) FSM (12pm-2pm) Nauru, Kiribati and RMI (1-3pm)

Schedule of live sessions and country groupings are to be determined according to the number of participants nominated. If participants cannot attend the designated sessions due to work-related reasons and inform the secretariat of his/her absence and reasons in advance, the secretariat will arrange alternative option to complete these live sessions.

8. Certification of Completion

Participants who meet the requirements below will receive certification of completion of training.

- Post at least one input in any discussion forum for modules.
- Pass quizzes of Module 1 and 2
- Attend a live summary lecture
- Submit exercise outputs
- Attend a live consultation on exercise outputs
- Submit course evaluation

II. Procedure for Nomination

1. Expected role of the Participants

(1) This course is designed primarily for national ministries/departments and non-state actors that are involved in climate change adaptation and mitigation actions. Participants are expected to use the relevant knowledge provided through the course for their current projects or future activities, and to contribute to the national planning and the implementation of the National Adaptation Plan (NAP) and Nationally Determined Contribution (NDC) to enhance climate resilience.

(2) The project team will follow-up the activities of participants and may disseminate their stories through the project newsletters and the PCCC website.

(3) The Climate Change Focal Points are requested to nominate participants from various units/sectors working in climate change projects according to the above

expectations.

2. Participant Qualifications

In addition to eligibilities in section I. 4, participants are expected to meet the following qualifications. The participants would not necessarily be employed by the applying organizations, as long as they are selected officially by the organizations for their specific purposes. The participants must be either persons who are engaged in the said field or working in a field directly related to program subject.

(1) Current duties

(a) Entry to mid-level officials or practitioners of governmental or non-governmental institutions including the private sector
(b) In charge of relevant fields of this training program: climate change and ecosystem management.
(c) Expected to be in the near future involved or already be involved in the decision-making process of planning/development and implementation of policies in the relevant fields.

(2) Essential Qualifications

(a) Computer skills: At least high computer literacy on Microsoft Office Suite.
(b) Educational Background: Diploma (two years of tertiary education) or equivalent
(c) Language: have a competent command of spoken and written English.
(d) Health: must be in good health, both physically and mentally, to participate in the Program
(e) Age: between the ages of 24 and 40 years
(f) Must not be serving any form of military service.

(3) Recommendable Qualifications

Gender Consideration: The project team is promoting gender equality. Women are strongly encouraged to participate in the course.

3. Required Documents for Nomination

Please fill out the Nomination Form (Annex) and submit to the CBCRP-PCCC Project Team through the Climate Change Focal Points by **16 June 2021**.

4. Conditions for Attendance

(1) not to utilize knowledge and skills acquired in the training for military purposes.
(2) to strictly adhere to the course schedule.

(3) not to change the course topics.
(4) to refrain from engaging in any political activities during the training.

III. Administrative Arrangements

1. E-learning platform

The detailed information on the e-learning platform including training materials, Q&A and virtual sessions will be shared with all the participants at a later date.

2. Location in your country

The CBCRP-PCCC Project Team strongly requests a Climate Change Focal Point or an office designated by the focal point to arrange a central location for the virtual sessions.

3. Organizer

For enquiries and further information, please contact the below**.**

(1) Name: CBCRP-PCCC Project Team
(2) Email: cbcrp.pccc@gmail.com
(3) Office: c/o P.O. Box 240, Secretariat of the Pacific Regional Environment Programme (SPREP), Apia, Samoa

Annex: Agenda of the training program

1. Understanding of climate risk and vulnerability of ecosystem

1.1 Climate and non-climate impacts on ecosystem

Section 1.1 explains basic knowledge related to ecosystem-based adaptation and mitigation, and some examples of climate change impacts and non-climate impacts.

Training materials present:

- Key concepts and definitions related to ecosystem and climate change, such as exposure, hazard, vulnerability and risk of climate change, as presented in the IPCC AR5
- Observed and projected climate change and its impacts in the Pacific. It will focus on temperature rising, precipitation pattern change, sea level rise and tropical cyclones that are most relevant to ecosystem as threats and some cases of those impacts in the Pacific.
- Non-climate threats to ecosystem, particularly human activities. The differences with climate impact are explained. Also, distinction between large scale socio-economic development activities and community-based livelihood activities is clarified.

1.2 Basic knowledge of vulnerability assessment of ecosystem

Section 1.2 introduces methodologies, data/information to assess vulnerability of ecosystems referencing examples including those in Pacific regions.

Training materials present:

- Overview of climate change impacts on ecosystems and focal points to assess vulnerability of ecosystem
- Methodologies, steps and data/information to assess vulnerability of ecosystem using Ecosystem and Socio-Economic Resilience Analysis and Mapping (ESRAM)
- Planning and prioritizing EbA interventions

2. Ecosystem-based adaptation and mitigation

2.1 Terrestrial and freshwater ecosystems

Section 2.1 provides an overview of the fundamentals of ecosystem-based adaptation and mitigation in terrestrial and freshwater ecosystems. Key principles, challenges, co-benefits, outcome indicators and means of verification and barriers and enablers on the options below will be explained. Examples in Pacific regions are also introduced.

Option 1: Sustainable land use and soil conservation (Adaptation): Introduction of land use planning, sustainable land use for livelihood options for ecosystem resilience. Introduction of the concept of backyard gardening to shift reliance on planting and harvesting on riverbanks and in natural forest.

Option 2: Forest (Adaptation & Mitigation): Protection of natural forest. Native tree reforestation, agroforestry and establishment of nurseries.

Option 3: Watershed & reservoir (Adaptation): Protection of natural forest. Restoration of plant cover in the watershed through native tree planting

2.2 Marine and coastal ecosystems

Section 2.2 explain an overview of the fundamentals of ecosystem-based adaptation in marine and coastal ecosystems. Key issues for success including, but not limited to, site and ecosystem characteristics, maximum biophysical thresholds, time frame and local community involvement on the 3 options below will be explained. Examples in Pacific regions are also introduced.

Option 1: Protection of ecosystems and Marine Protected Areas (MPAs): Large-scale protection and management. Design, management and good governance of MPAs that can contribute to diversified livelihoods.

Option 2: Restoration of coral reefs: Restoration of degraded coral reef ecosystem by rearing and transplanting coral fragments.

Option 3: Mangrove conservation & replanting

Discussion themes of Option 1- 3: key principles; challenges; co-benefits; barriers and measures; and outcome indicators and means of verification.

2.3 EbA Implementation: Cross-cutting Issues and Approaches

Section 2.3 provide an overview of EbA implementation and the fundamentals of cross-cutting issues and approaches. The training focuses on the understanding how ecosystem-based management approaches (EbM) evolved as an effective approach to addressing climate change. It will then re-focus as follow a up to the previous session and will look at the process of the EbA Options identification, prioritization and subsequent formulation and implementation of EbA Master Plans. Key EbA implementation principles and crosscutting issues, challenges, co-benefit, barriers, and measures to address and managing a project for the long term will be covered. Examples from the Pacific will be utilized in this section.

Option 1: Broad EbM Concepts such ridges to reef and whole island approach and climate change: Focus will be on the evolution of ecosystem-based management approaches to EbA to address the impacts of climate change. Emphasis will be made on the role of ecosystems in building climate change resilience. This aims to build and understanding on the role of

natural ecosystem in building climate resilience through all social and economic sectors and build a stronger ecosystem-based approach.

Option 2: EbA Implementation and Enabling Environment for Sustainability: Focus will be on implementation and creating the enabling environment for long term sustainability of EbA projects. Emphasis will be made on governance and ownership, engaging multiple experts from within the country and developing long terms partnership. Examples will be drawn from EbA project implemented in the Pacific Islands.

3. Problem and objective trees, and logical framework

3.1 Project objectives

In formulating a climate change project, the theory of change and the logical framework are key elements. They are described as tools for logic that connect causes and effects. Development of problem and objective trees will help to uncover these connections.

Section 3.1 shows participants how to use problem trees and objective trees and how these are used to craft the logical framework, as well as theory of change.

Training materials of this section explain:

- Problem tree analysis: defining core problem, direct causes and effects, secondary causes;
- Objectives tree: identify the means of achieving a desired result or output at the end of a project, indicating the longer-term outcomes and impacts that the project can contribute to; and
- Logical framework: identify goal, purpose, outputs, activities, inputs, design summary, performance targets, monitoring mechanisms, and assumptions and risks.

3.2 Exercise

Each country group executes problem tree analysis by identifying core problems related to climate change adaptation, mitigation and ecosystem approaches. This exercise is followed by formulation of objective trees and development of a logical framework of the project/ program related to ecosystem-based adaptation and mitigation.

References

1. **Examples of Climate Change Policies and Strategies on ecosystem-based solutions for climate resilience in the Pacific Countries**

Country Policy title	ecosystem-based solutions
Cook Islands 2nd Joint National Action Plan A sectoral approach to Climate Change and Disaster Risk Management (2016-2020)	STRATEGY 3: Environmental Sustainability Promote sustainable land use practices and the protection and conservation of our environment and the efficient management of waste 10. Improve the conservation and management of marine and terrestrial biodiversity to increase resilience to the impacts of climate change. Monitor the impacts of climate change on animal and plant population health and distribution. b. Develop community based protected areas to protect rare and endangered environments and species. c. Develop and implement actions to protect and reduce the vulnerability of endangered species (plants, animals). d. Develop, where needed, appropriate regulatory mechanisms for all islands. e. Strengthen the institutional capacity of enforcement agencies. f. Eradicate and control invasive plants and animals Promote effective control of marine litter from land sources. 11. Promote integrated management of the coastal zones to build resilience to natural hazards and slow onset events including ocean acidification, ocean warming and sea level rise. a. Monitor reef health. b. Raise awareness through the establishment of pilot demonstration projects. c. Develop regulations on coastal set back lines (buffer zones) where appropriate. d. Put in place monitored and integrated measures to minimise or reverse coastal erosion e.g. planting of native trees, sand traps. e. Monitor the safety and maintenance need of the coastal zones for low lying atolls.
Fiji National Adaptation Plan (NAP)– A pathway towards climate resilience (2018)	SECTION 15: Infrastructure Description: Helps to ensure full life span of investments are reached by reducing environmental and climate risks. Outcomes: Resilient infrastructure which can operate under future conditions and meet future needs. 15.D.1 Integrate ecosystem-based adaptation measures into considerations regarding the construction of seawalls and river

	banks, including mangrove planting. 15.D.4 Implementation of river bank protection activities which integrate ecosystem-based approaches with hard infrastructure, in particular the use of riparian buffers. SECTION 16: Biodiversity and the Natural Environment Description: Supports maintenance of biodiversity and the natural environment and the services it provides. Outcome: Supports efforts to protect, maintain, and restore natural capital that underpins society and economic growth 16.2 Prioritise and delineate critical areas for protection and sustainable management based on ecosystem services, cultural importance, biodiversity, food security, water security, access and benefit sharing, and importance for adaptation and disaster risk reduction. 16.3 Gain endorsement of mangrove management plan, implement mangrove rehabilitation projects and strengthen the regulations regarding mangrove removal and conversion. 16.4 Assess and monitor the state of coastal ecosystems and protect and enhance the natural coastal defenses. 16.8 Implement ecosystem-based approaches to adaptation to protect, maintain, and restore degraded habitats with active community, NGO and private sector engagement in particular the restoration of critical watersheds, riparian and coastal zones. 16.11 Identify and map 'climate-vulnerable' species of flora and fauna and their habitat (lifecycle), including connections with the need to control invasive species, and create a national plan and monitoring system to support climate vulnerable species.
Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) 2019-2028	4.1 Communities with island councils manage and implement climate change adaptation and disaster risk reduction measures as an integral part of their development efforts and inclusive of vulnerable groups. 4.3 Communities manage coastal fisheries taking into consideration sustainability of marine resources as well as climate change and disaster risks. 4.5 Communities manage their water resources, including during extreme events such as drought, heavy rain and storm surges (see also Strategy 6). Result 6.3: Building coastal resilience through strategic coastal protection initiatives
Marshall Islands Adaptation Communication Report, December 2020	3.5.2 Ecosystem Management, Protection and Conservation RMI is taking steps to preserve its ecosystem, particularly vulnerable coastal land and marine areas, including, as part of the Micronesia Challenge, committing to conserve at least 30% of its near shore resources and 20% of terrestrial resources. The

	Marshallese have a close connection and reliance on the local environment, and will draw on traditional and local knowledge in developing adaptation solutions and ecosystem protection activities. The Reimaanlok Plan, for example, developed localized ecosystem assessments in collaboration with community leaders to devise and implement conservation approaches.
Palau Climate Change Policy for Climate and Disaster Resilient Low Emissions Development (2015)	Section C: Biodiversity Conservation & Natural Resources Intervention C.1: Undertake research on the carbon sink ability of and resilience of marine and terrestrial ecosystems to climate change and disasters. Intervention C.2: Improve management framework to strengthen the resilience of marine and terrestrial ecosystems and sustainably manage carbon sinks. Intervention C.3: Improve invasive species management, including through biosafety and biosecurity legislation.
PNG National Climate Compatible Development Management Policy (2014)	54: Natural Asset Protection 55: Reduce Greenhouse Gas Emission Through Agricultural Practices. 56: Protect Agricultural Land From Urban and Suburban Encroachment. 57: Natural Resource Climate Change Adaptation:
Samoa Climate Change Policy 2020	Implementing plan: 2.3 Implementing adaptation actions to enhance the climate resilience of the 368 Communities of Samoa as identified in the respective CIM Plans and Strategy, Built environment (coastal and inland infrastructure), Ecosystems services, Biodiversity, Forest & protected areas, Health, Soil, Sanitation, Agriculture (crops, livestock, fisheries and marine resources and ecosystems), Food Security, Tourism investments and promoting actions that impact on multiple sectors and communities 7.5 Explore the ocean – climate change nexus to amplify the role oceans and coastal ecosystems.
Tuvalu National Strategic Action Plan for Climate Change and Disaster Risk Management 2012 -2016	1.4 Coordinated planning and management of marine, coastal and land resources and systems (Whole Island Systems Management/ Ecosystem base management). 1.4.2 Integrate climate change adaptation into the programme of work on protected areas including the development of protected areas on all islands 1.4.7 Assess and address the impacts of land base practices including runoff and ground water leaching on the marine environment in context of climate change.
Vanuatu Climate Change	7.4.5 Ecosystem-based approaches Support ecosystem adaptation and risk reduction services by:

and Disaster Risk Reduction Policy 2016-2030	· prioritising actions that incorporate threats and solutions from the 'ridge to the reef' of island communities; · identifying and minimising negative impacts on the environment from proposed adaptation and risk reduction activities; · prioritising adaptation and risk reduction actions that build on, incorporate and protect taboos, conservation areas, heritage sites, locally managed areas and vulnerable habitats and ecosystems and carbon sinks; · quantifying the value and benefit of ecosystem services and building this into adaptation and risk reduction planning and budgeting; · prioritising "soft" ecosystem based adaptation over "hard" engineered infrastructure for ecosystem function maintenance (e.g. coastal revegetation versus sea walls); · developing advocacy and educational programmes around the value of ecosystem-based adaptation; and · utilising sound land-use planning approaches, and implementing and enforcing ecosystem-related development policy documents (e.g. Land Use Planning Policy, Foreshore Development Act, Physical Planning Act).

2. Nationally Determined Contributions (NDCs) (mitigation)

Country	Mitigation contribution
Kiribati	In addition to these quantified outcomes, Kiribati will proactively protect and sustainably manage its mangrove resources, as well as protect and enhance coastal vegetation and seagrass beds. Together these actions represent effective stewardship of more than 6 million tonnes of Carbon Dioxide stored, more than 100 times the current annual national emissions inventory.
PNG	By 2030, PNG is committing to a reduction in annual emission from deforestation and forest degradation, due to agriculture expansion and commercial logging of 10,000 Gg CO2 eq compared to 2015 level. This target is significant in itself but should also be seen in the context of PNG's projected business as usual scenario for the forest sector which would result in significant increases in levels of emissions. As such PNG is working to deliver a significant change is the emission trend within the sector.
Solomon Islands	Appropriate methodologies drawn from international best practice to quantify sequestration from above 400m contour and forest plantations.
Tonga	AFOLU: establishment of a forest inventory as prerequisite to identify a GHG emission target for the 2025 NDC and planting one million trees by 2023.

Vanuatu	Forestry sector measures to reduce deforestation and promote good land care to accepted mitigation practices according to REDD+