14th SPC Heads of Fisheries Meeting
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Paper reference:	Working paper 4
Title:	FAME's work programme on climate impacts on Pacific fisheries and ocean ecosystems
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Summary/short description/key points:

This Paper provides an update to Heads of Fisheries on the work of FAME and its partners to assist SPC members with enhancing the technical information for adapting their fisheries management to climate impacts.

A summary of progress towards achieving the HoF13 endorsed "climate" work programme is provided along with a description of the new regional climate initiatives for fisheries. This includes an update on the proposal to the Green Climate Fund (GCF) "Adapting tuna-dependent Pacific Island communities and economies to climate change"; The New Zealand Ministry for Foreign Affairs and Trade "Climate Change and Tuna Fisheries"; The Australian Department of Foreign Affairs and Trade "Assessment of climate change vulnerability of Pacific Ocean resources – 10 year update"; and two new Global Environment Facility projects. These new initiatives will require consultation with each national agency and with other regional organisations and stakeholders to ensure their outcomes meet the needs of SPC's members.

Recommendations:

Members and partners are invited to note the progress that has been achieved in the last 12 months to implement the FAME work programme on climate.

Members and partners are invited to reiterate at HoF14 their endorsement from HoF13 for the increasingly urgent upgrade of the Pacific Marine Specimen Bank Laboratory Infrastructure and the need for a Regional Fisheries Research Vessel as critical assets for implementing the work programme.

Member and partners are also invited to note that the substantial costs involved in developing the Funding Proposal for the GCF regional tuna programme over a 2-year period are being met through grants from the GCF and the Minderoo Foundation. To facilitate development of the Funding Proposal, Members and partners are kindly requested to:

- Note the large number of technical studies to be delivered by SPC, FFA and FAO, and the numerous environmental and social studies to be done by the selected consulting company;
- Collaborate with Conservation International (CI), the project partners and consultants to facilitate stakeholder engagements for several of the studies required by the GCF;
- Assist consultants to identify practical, national and regional financing mechanisms, and supporting policies, to sustain increased access to tuna for domestic food security and operate the Advanced Warning System following completion of the GCF regional tuna programme;
- Consider the benefits of expanding the proposed membership of the Technical Advisory Group for the GCF regional tuna programme during the implementation phase to include a representative of the Minderoo Foundation's Sustainable Fisheries Program;
- Appoint a Chair and national representatives for the Oversight Committee for development of the GCF Funding Proposal, and identify the preferred modality for committee meetings; and
- Allocate a senior staff member within each national fisheries agency to be the focal point for liaison with CI and the other project partners regarding all activities associated with development of the GCF Funding Proposal.

Noting that all recent climate initiatives will require regular and ongoing consultation with members to ensure they meet their needs, members and partners are requested to discuss a consultation process that meets the requirements of the portfolio of all projects and alleviates consultation fatigue, maximises efficiencies and ensures that duplication of activities is avoided. HoF may also wish to consider how this consultation could work with other climate initiatives in the region that are under the leadership of other organisations. An option toward this is outlined in Annex 2.

Members and partners are invited to nominate a senior staff member within each national fisheries agency to be the focal point for liaison on the climate change fisheries initiatives in the region.

Background

1. This working paper provides HoF14 with:

    - an update on FAME's work programme on climate impacts on Pacific Fisheries and the ocean ecosystems they are dependent upon.

    - a progress update and specification of responsibilities for four key regional initiatives:

        i. The Green Climate Fund "Adapting tuna-dependent Pacific Island communities and economies to climate change".

        ii. The New Zealand Ministry for Foreign Affairs and Trade "Climate Change and Tuna Fisheries".

        iii. The Australian Department of Foreign Affairs and Trade "Assessment of climate change vulnerability of Pacific Ocean resources – 10 year update".

        iv. The Global Environment Facility "Sustainable Management of Tuna Fisheries and Biodiversity Conservation in the Areas Beyond National Jurisdiction" and "Mainstreaming climate change adaptation and resilience and ecosystem-based management approaches into the sustainable management of the highly migratory fish stocks of the Western and Central Pacific Ocean" (OFMP3).

FAME's work programme on climate impacts

2. The work programme was presented and endorsed at the 13th Heads of Fisheries meeting (see HoF13_WP6). The endorsed work programme included three thematic areas: knowledge generation; regional and national capability; and solutions. Annex 1 provides a summary of the performance against identified KRAs in each of these theme areas. Progress reporting has adopted the same indicator approach as used in HoF14_WP1 "FAME Results Reporting 2021".

3. The capability for FAME to efficiently and effectively implement the endorsed work programme is dependent on the completion of essential research infrastructure described in HOF14_IP-04

The Green Climate Fund "Adapting tuna-dependent Pacific Island communities and economies to climate change"

Status

4. The revised version of the Concept Note for the GCF regional tuna programme endorsed by HoF12 was subsequently approved by GCF's Climate Investment Committee in May 2021 and the final version was posted on the GCF website at https://www.greenclimate.fund/document/adapting-tuna-dependent-pacific-island-communities-and-economies-climate-change

5. Following approval of the Concept Note, Conservation International (CI) and the project partners (SPC, FFA, FAO and SPREP) developed the budget and Terms of Reference (ToR) for consultants and staff to complete the studies and analyses needed to address all the GCF requirements for a Funding Proposal.

6. Conservation International also coordinated the efforts required to raise grant funding of USD 2.875 million necessary to prepare the Funding Proposal over a 2-year period. An application was then made to GCF for the maximum Programme Preparation Facility (PPF) grant of USD 1.5 million. The PPF application was developed in consultation with the project partners and with the National Designated Authorities (NDAs) and Heads of Fisheries in each of the 14 countries participating in the GCF regional tuna programme. During this process, some NDAs and HoFs requested the establishment of an 'Oversight Committee', comprised only of representatives of the participating countries, to help guide and monitor the development of the Funding Proposal.

7. The complete draft of the PPF application was shared with the GCF Secretariat, which requested minor revisions in November 2021. The No Objection Letters (NOLs) required by GCF for approval of PPF applications were obtained from all NDAs by mid February 2022 and the PPF application was approved by GCF on 1 March 2022 and posted on their website at https://www.greenclimate.fund/document/ppf-adapting-tuna-dependent-pacific-island-communities-and-economies-climate-change The grant agreement for the PPF and disbursement of the USD 1.5 million will be coordinated and managed on behalf of the GCF by the United Nations Office for Project Services (UNOPS).

8. To obtain the remaining co-finance of USD 1.375 million needed to cover the full cost of preparing the Funding Proposal, CI submitted a proposal to the Minderoo Foundation. Conservation International is pleased to report that this proposal was approved on 5 April 2022 and is now included in the Foundation's Sustainable Fisheries Program. Mr Keith Twyford from the Minderoo Foundation formally announced their commitment to supporting the development of the Funding Proposal for the GCF regional tuna programme at the Our Oceans Conference in Palau (https://ourocean2022.pw/commitments/).

9. The USAID Climate Ready Program has also expressed interest in supporting development of the Funding Proposal if the project partners identify the need to strengthen a particular activity in the months ahead.

Anticipated starting date for preparing the Funding Proposal

10. The project partners are planning to begin work on the Funding Proposal on 1 July 2022. However, the anticipated starting date will be contingent on signature of the following agreements:

    - Grant Agreement between UNOPS and CI for the expenditure of USD 1.5 million;
    - Grant and Collaboration Agreement between Minderoo Foundation and CI for the expenditure of USD 1.375 million (due to be signed before the end of May);

- Grant Agreement between CI and SPC for Technical Studies 1-10, including the Feasibility Study, described under PPF Activity 1 (https://www.greenclimate.fund/document/ppf-adapting-tuna-dependent-pacific-island-communities-and-economies-climate-change);

- Service Agreement between CI and FFA for Technical Study 11 (https://www.greenclimate.fund/document/ppf-adapting-tuna-dependent-pacific-island-communities-and-economies-climate-change);

- Service Agreement between CI and FAO for Technical Study 12 (https://www.greenclimate.fund/document/ppf-adapting-tuna-dependent-pacific-island-communities-and-economies-climate-change); and

- Service Agreement between CI and a consulting firm with experience in preparing GCF Funding proposals to complete all the studies described under PPF Activities 2-4 (see RFP at https://cicloud.s3.amazonaws.com/docs/default-source/s3-library/rfps/oceans-gcf-ppf-001-rfp-fnl-rev-22apr-v2.pdf?sfvrsn=fc946aa1_2).

11. In anticipation of these arrangements being in place by 1 July, SPC has issued a Request for Proposals (RFP) for each of the 10 Technical Studies it will be delivering to help build the Funding Proposal. FFA and FAO will also be commissioning appropriate consultants. CI has issued an RFP to deliver PPF Activities 2-4 from consulting companies with experience in developing complex public funding proposals, and advertised for a Technical Adviser to strengthen the team at CI responsible for preparing the Funding Proposal.

Timeframe for writing the Funding Proposal

12. Once UNOPS makes the first disbursement of PPF grant funds to CI, the Funding Proposal has to be submitted to the GCF Board within two years. The project partners anticipate that 18 months will be required to develop a complete draft of the Funding Proposal, given the size and complexity of the proposal which is seeking a grant of ~USD 70 million to be implemented over seven years for the benefit of 14 Pacific Island countries.

13. To meet the timeline requirements of the GCF, CI is specifying that project partners and consultants have to deliver the commissioned studies to the necessary standard within 15 months. CI will then assemble the information into the GCF Funding Proposal package in consultation with the project partners and participating countries within three months. The final six months of the PPF period will be used for review of the Funding Proposal by the GCF Secretariat and GCF's Independent Technical Advisory Panel (ITAP), revision to the proposal by the project partners and consultants to address any issues raised by the GCF, and final clearance of the Funding Proposal by the GCF Secretariat before submission to the GCF Board for approval.

Actions required by HoF

14. To facilitate development of the Funding Proposal for the GCF regional tuna programme, Heads of Fisheries are kindly requested to:

- Note the large number of technical studies to be delivered by SPC, FFA and FAO, and the numerous environmental and social studies to be done by the selected consulting company;

- Collaborate with CI, the project partners and consultants to facilitate stakeholder engagements for several of the studies required by the GCF;

- Assist consultants to identify practical, national and regional financing mechanisms, and supporting policies, to sustain increased access to tuna for domestic food security and operate the Advanced Warning System following completion of the GCF regional tuna programme;

- Consider the benefits of expanding the proposed membership of the Technical Advisory Group for the programme during the implementation phase to include a representative of the Minderoo Foundation's Sustainable Fisheries Program;

- Appoint a Chair and national representatives for the Oversight Committee for development of the Funding Proposal, and identify the preferred modality for committee meetings; and

- Allocate a senior staff member within each national fisheries agency to be the focal point for liaison with CI and the other project partners regarding all activities associated with development of the Funding Proposal.

The New Zealand Ministry for Foreign Affairs and Trade "Climate Change and Tuna Fisheries"

15. New Zealand announced at HoF13 a commitment of NZD1,882,452 to:

    - Update the 2011 climate vulnerability assessment for oceanic fisheries (coordinated with the Australian DFAT initiative described below).

    - Evaluate and integrate climate indicators into tuna fisheries management.

    - Integrate climate impacts into annual climate report cards (existing and new).

    - Foster closer collaboration amongst the IPCC processes in the Pacific region to increase the profile of fisheries and ocean issues in UNFCCC negotiations (particularly with New Zealand agencies and Universities.

16. It is preferred that the development and evaluation of the climate indicators is a "bottom-up" driven process so that the candidate indicators chosen have the most relevant baselines and support fisheries management. It is important that FAME are able to share/discuss these requirements early with the fishery managers (PNA, FFA and countries) so that SPC has some guidance on what indicators the SPC should monitor to best support member needs.

17. Potential candidate indicators have been presented to the scientific committee of WCPFC (see https://meetings.wcpfc.int/node/12606) to familarise the membership with their form and purpose.

18. To facilitate this dialogue, it would be preferable for a senior staff member within each national fisheries agency to be the focal point for liaison with SPC.

19. New Zealand and SPC have also commenced dialogue on options to scale-up this current investment as part of New Zealand's new climate finance initiative. Consultation with national fisheries agencies will be an important component of developing and prioritising any potential scale-up investment. The establishment of focal points within each agency will also facilitate this dialogue.

20. SPC has also initiated discussion with CSIRO and the Bureau of Meteorology (Australia) to integrate the tuna-climate indicators developed by this project into the 'Climate and Oceans Support Program in the Pacific' (COSSPac) initiative.

The Australian Department of Foreign Affairs and Trade "Assessment of climate change vulnerability of Pacific Ocean resources – 10 year update"

21. The Australian Government has agreed to support the update the 2011 Assessment of climate change vulnerability of Pacific Ocean resources (coordinated with the oceanic fisheries assessment which is supported through the New Zealand initiative described above).

22. The update includes coastal fisheries and habitats and aquaculture technical analyses, and implications for food security, livelihoods and adaptation. This will involve completing a technical re-analysis, review, collation and synthesis of current climate science, coastal habitats, fisheries and demographic data to input to the updated assessment that can be extended as an online resource. The update will include coastal habitats (coral reefs, seagrass, mangroves) that support fisheries, how they are projected to change due to climate change and implications for food security and livelihoods. Linked to the coastal fisheries analysis is the technical re-analysis, review, collation and synthesis of current aquaculture data from all PICTs and the vulnerability to the latest climate change projections to input to the updated assessment. The aquaculture update is proposed to be conducted through the CFAP Aquaculture team. The coastal fisheries and habitat component is proposed to be undertaken by both CFAP and a specialist consultant team from C_2O Pacific.

23. The project will include a science management and editorial services component which will be based part-time at SPC Noumea in the FAME Division. It will coordinate all the technical science analysis components to deliver a comprehensive assessment for the Pacific region and all 22 PICTs. The position will be responsible for coordinating the different analyses (including for oceanic fisheries), input from technical experts through a Technical Working Group, guiding and leading the science writing process with all authors, compiling the sub-sectoral analyses into summaries for each PICT, and coordinating the design and publication process within SPC requirements. The Editorial role will need to be appointed at the start of the project

for a period of 2 years, will report directly to the SPC FAME Division, and will most likely be under a contractor arrangement.

24. Resourcing for publication and extension of results includes design and layout of publication (either as an e-book or printed), supporting infographics and an interactive web tool. The dissemination of the project results is expected to be varied and will be outlined in a Communication Strategy to be developed early in the project, and could include additional products such as videos, fact sheets etc. The publication of outputs is proposed to be delivered by the SPC publications team (potentially with external provider for some elements) and would align with the SPC Communication Guidelines.

25. Project completion is expected by December 2023, with an official launch in early 2024.

26. The results of this project along with the oceanic vulnerability assessment will be important contributors to the climate rationale to be included in the Funding Proposal for the GCF regional tuna programme.

27. This initiative will also need to preferably follow a "bottom-up" process so that outcomes and outputs best support member needs. To facilitate this dialogue, it would be preferable for a senior staff member within each national fisheries agency to be the focal point for liaison with SPC and the project team.

The Global Environment Facility Initiatives

28. The Global Environment Facility has approved two new projects that include climate change components. Approval has been granted for a second Common Oceans project titled "Sustainable Management of Tuna Fisheries and Biodiversity Conservation in the Areas Beyond National Jurisdiction" and a third Oceanic Fisheries Management Project titled "Mainstreaming climate change adaptation and resilience and ecosystem-based management approaches into the sustainable management of the highly migratory fish stocks of the Western and Central Pacific Ocean". Both projects are expected to commence in July 2022.

29. The Sustainable Management of Tuna Fisheries and Biodiversity Conservation in the Areas Beyond National Jurisdiction project provides additional resources for updating the current Pacific climate projections from the 2-degree resolution CMIP5 to 1-degree resolution CMIP6 atmospheric models. The tuna climate projects will be global providing the first opportunity to evaluate potential changes in global supply chains of tuna. The project budget includes resources for WCPFC-wide consultation on climate change impacts and adaptation options.

30. The FFA-led Mainstreaming climate change adaptation and resilience and ecosystem-based management approaches into the sustainable management of the highly migratory fish stocks of the Western and Central Pacific Ocean (OFMP3) project provides resources to further evaluate the impacts on tuna dependent ecosystems, including the impacts on bycatch and other food security species and to improve understanding and modelling of oceanographic drivers on these key resources. The ultimate aim of this component is to expand the knowledge base on and identify changes in the ecosystem and their effects on tuna stock distribution including climate change impacts and connectivity across high seas and EEZs.

31. Both GEF projects have a 5-year duration. OFMP3 is anticipated to begin in July 2022.

Recommendations to HoF14

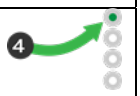
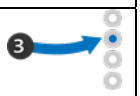
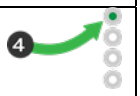
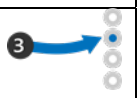
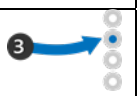
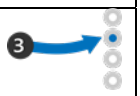
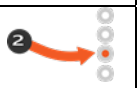
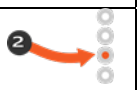
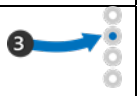
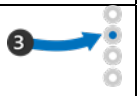
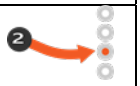
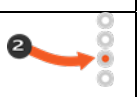
32. HoF14 note the progress that has been achieved in the last 12 months to implement the FAME work programme on climate.

33. HoF14 reiterate their endorsement at HoF13 for the upgrade of the Pacific Marine Specimen Bank Laboratory Infrastructure and the need for a Regional Fisheries Research Vessel as critical assets (see HoF14_IP-04) for implementing the work programme and implementing the new regional climate initiatives.

34. Noting that all recent initiatives will require regular and ongoing consultation with members to ensure they meet their needs, HoF14 is requested to discuss a consultation process that meets the needs of all projects and alleviates consultation fatigue, maximises efficiencies and ensures that duplication of activities is avoided. HoF14 may also need to consider how this consultation could work with other climate initiatives in the region under the leadership of other organisations (e.g. FFA). One option to initiate discussion is outlined in Annex 2 of this working paper.

35. To assist FAME with planning of projects and their implementation, allocate a senior staff member within each national fisheries agency to be the focal point for liaison on the climate change initiatives in the region.

Annex 1. Progress reporting – FAME's climate work programme

Theme: Knowledge Generation	
KRA	**Progress**
Fishery vulnerability	
Species vulnerabilities	
Range shifts	
Marine heatwave impacts	
Adaptive capacity	
Data systems	
Stock dynamics	
Fishery forecasting	
Ocean forecasting	
Adaptation triggers	
Gear innovation	
Food systems	

Theme: Generation of Regional and National Capability	
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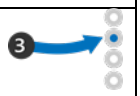
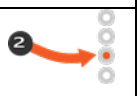
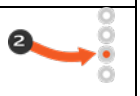
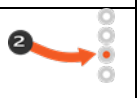
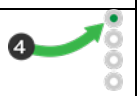
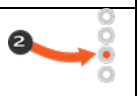
Information fystems	
Attachments	
Post graduate qualification	
Short course curriculum	
Partnerships	
Secondment, visiting fellows, resident thinkers	

Theme: Solutions	
KRA	**Progress**
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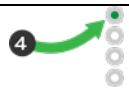
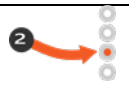
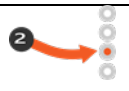
Indicators	
MSE compatible products	
Economic forecasts	
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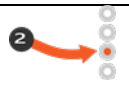
Small-scale tuna fisheries	

Progress key

Annex 2. Draft terms of reference: Advisory and Oversight Committee for SPC Fisheries/Climate Change Initiatives

Membership

The primary membership of Technical Advisory and Oversight Committee for SPC Fisheries/Climate Change Initiatives are the Pacific Community (SPC), Pacific Islands Forum Fisheries Agency (FFA) and the Office of the Parties to the Nauru Agreement (PNAO).

The Committee may invite participants from a broad range of stakeholders including, but not limited to: the secretariats of the WCPFC and the Secretariat of the Pacific Regional Environment Programme (SPREP), wider WCPFC members, fishing and seafood industry members, Environmental Non-Government Organisations (ENGOs), other Regional Fisheries Management Organisation (RFMO) secretariats, and other expertise-based groups or individuals.

The Committee will be chaired by an SPC member on a rotational basis.

Context

Climate change represents a significant threat to the long-term sustainability of fisheries in the Pacific, including tuna. The predicted climate-driven changes in the relative biomass of tuna within the exclusive economic zones (EEZs) of small island developing states (SIDS) and in high-seas areas, pose significant challenges to the effective long-term management of tuna fisheries, and to the vital contributions of tuna to national economies. Coastal fisheries are expected to decline in productivity over the coming decades creating critical shortfalls in the region's food security requirements; increased access to tuna for domestic consumption will be needed to fill the gap in fish supply.

A growing recognition of the climate threat to fisheries in the Pacific led to the adoption of a resolution on climate change at the 2019 Western and Central Pacific Fisheries Commission (WCPFC; Resolution 2019-01) and the prioritisation of the need for urgent action to adapt fisheries to climate impacts by the region's Fisheries Ministers. This motion resolved, among other things, to support further science on the relationship between climate and fisheries, as well as to the development of conservation and management measures to build resilience on the potential impacts of climate change on target stocks, non-target species, and species belonging to the same ecosystem or dependent on or associated with the target stocks as well as the impact dependent industries and livelihoods.

Pacific Island countries, regional agencies, and civil society groups are now co-developing a series of inter-related initiatives to support climate-resilient Pacific tuna fisheries. Ultimately, the creation of a climate-smart jurisdiction in the Pacific through a set of well-coordinated initiatives will support the long-term management of fisheries in the region. The need to establish an efficient and effective member-driven consultation and communication process to support alignment and coordination of the various workstreams related to climate change resilience in Pacific tuna fisheries has been identified as an important step to achieving this outcome.

Purpose

The Committee objective is to support alignment, collaboration, and coordination between active workstreams focused on driving climate resilience in Pacific fisheries. As such, a key objective is to

identify and capitalize on synergies between initiatives that advance and leverage the latest climate science in order to develop and implement effective climate adaptive management policies.

Scope of Work

The Committee will meet annually (or as required) remotely or in-person to provide relevant updates about the various workstreams being led by the members in order to identify and capitalize on synergies. Where synergies exist the Committee members will work together to facilitate efficiencies in consultation and communications. Committee members will act as focal points for communication and consultation within their agency/organisation. Responsibilities include facilitating agency/organisational consultations that may be needed for particular projects, keeping national and organisational counterparts informed on activities and initiatives and facilitating appropriate national/organisation representation in regional consultations. The Committee will receive secretarial support from SPC FAME, including the preparation of meeting reports that will be a basis for sharing information between projects and climate initiatives in addition to keeping higher level regional processes informed on project initiatives (e.g. HoF, FFC, PNA). The committee would also serve as a vehicle to coordinate activities that identify regional priorities. These roles and responsibilities are summarised in the following diagram.