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Author(s):	SPC FAME Oceanic Fisheries Programme (OFP)

#### Summary/short description/key points

This Working Paper provides HoF15 with:

- a summary of progress towards achieving the HoF13 endorsed “climate” work programme is provided.
- an update on key regional climate change projects.

#### Recommendations

Members are invited to note:

1. the progress that has been achieved in the last 12 months to implement the FAME work programme on climate.
2. the progress developing the Funding Proposal for the GCF regional tuna programme.
3. the new initiative by New Zealand to support activities to transition fisheries and ocean monitoring to support an “advanced warning system” for the impacts of climate change on tuna fisheries.

## FAME's work programme on climate impacts on Pacific fisheries and ocean ecosystems

### Status

1. The work programme was presented and endorsed at the 13<sup>th</sup> 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.

### Actions required by HoF

2. HoF15 note the progress that has been achieved in the last 12 months to implement the FAME work programme on climate.

## The Green Climate Fund “Adapting tuna-dependent Pacific Island communities and economies to climate change”.

### Status

3. 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>.
4. Financing for the full proposal development was secured by Conservation International from the GCF, Minderoo Foundation and USAID, with activities commencing in October 2023.
5. Partnerships have been established to assist SPC's preparation of 9 side studies to formulate the supporting information for the full proposal. Andrew Wright has been appointed to prepare the feasibility study. Conservation International has separately contracted study 12 (small boat design). Contracting arrangements for study 11 (Market infrastructure) between FFA and Conservation International have not been possible. SPC and FFA are in discussion to explore whether alternative arrangements may be feasible for commissioning this work. The table below provides progress updates for each. Terms of Reference for the studies can be found at <https://www.greenclimate.fund/document/ppf-adapting-tuna-dependent-pacific-island-communities-and-economies-climate-change>
6. National consultations with all 14 participating countries have been completed to refamiliarise government officials with the obligations expected of them in order to prepare the documentation.
7. A first draft of the detailed design and activities schedule is expected to be prepared by May for review by each national jurisdiction. Project governance and co-financing mechanism options are expected to also be drafted by mid-year for review by the participating countries.

	<b>Partner</b>	<b>Status</b>
Study 1 Assessment of the vulnerability of Pacific Island communities and economies to the effects of climate change on fisheries	C2O Pacific	On track
Study 2 Options for supplying dietary protein for growing Pacific Island populations	University of Wollongong	On track
Study 3 Feasibility of scaling-up National FAD Programmes in all 14 participating countries	Lindsay Chapman	On track
Study 4 Review of the capacity of national administrations to manage the risks posed by natural disasters to small-scale fishers	Jessica Sanders	Delayed (revised timeline)
Study 5 Description of existing and future needs and conditions for distributing bycatch to urban and peri-urban areas	MRAG Asia Pacific	On track
Study 6 Mechanisms to produce behavioural change in fish consumption by coastal communities	CChange	Delayed (revised timeline)
Study 7 Scope for data collection by industrial fishing vessels to inform climate/weather/fisheries models and use of vessels for collecting tissue samples for genetic analyses	AZTI	On track
Study 8 Preliminary framework for joint management of redistributed tuna stocks by WCPFC and IATTC	University of Wollongong	On track
Study 9 Identification of financing mechanisms and supporting policies to sustain the benefits achieved through investment by GCF	Marine Change	On track
Study 10 Synthesis of results from the above studies into the comprehensive Funding Proposal Feasibility Study		On track
Study 11 Improving market infrastructure for sale of tuna bycatch	FFA	Delayed To be confirmed

### **Actions required by HoF**

8. To facilitate development of the Funding Proposal for the GCF regional tuna programme, Heads of Fisheries are kindly requested to:
  - assist SPC with identifying preferred governance arrangements for project implementation;
  - assist SPC with identifying sources of co-finance during project implementation;
  - assist SPC with identifying 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.

## The New Zealand Ministry for Foreign Affairs and Trade “Climate Change and Tuna Fisheries”.

### Status

9. 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).
10. Potential candidate indicators have been presented to the scientific committee of WCPFC (see <https://meetings.wcpfc.int/node/16313>) to familiarise the membership with their form and purpose.
11. WCPFC has agreed for climate change to be included as a standing agenda item at the scientific committee and commission meetings.
12. Due to the restricted travel associated with the COVID-19 Pandemic the capability aspect of the workplan has been revised to include a 12-month Pacific Island Fisheries Professional. This position has replaced the attachments proposed in the original workplan.

### Actions required by HoF

13. To note the progress and that the project remains on-track to meet all expected outcomes.

## The New Zealand Ministry for Foreign Affairs and Trade “Climate Science to Ensure Pacific Tuna Access”.

### Status

14. New Zealand announced at the February 2023 Pacific Island Forum Special Leader Retreat a commitment of NZD25,000,000 to build the foundations for an advanced warning system to assist countries with planning for the impacts of climate change on tuna fisheries. Activities include:

#### *Establishing key enabling conditions*

- redevelop the Pacific Marine Specimen Bank and develop technical specifications for the procurement of a Pacific research vessel to meet the growing information needs of higher resolution climate modelling

- support the development of the Green Climate Fund proposal to use the advanced warning system to develop climate adaptations for Pacific tuna fisheries

*Establish baseline information for the advanced warning system*

- develop and validate standards, specifications and procedures for the Pacific Marine Specimen Bank to feed into climate change forecasting, quality control protocols, accreditation standards and population dynamic models;
- collect tissue samples needed to validate the assumptions underpinning the forecasting models used in the advanced warning system;
- provide advanced warning system information (e.g. definition of spawning areas and connectivity estimates) for tuna fisheries and key coastal species important for food security;
- prepare bias corrected and validated Coupled Model Intercomparison Project 6 ensemble model to allow climate impacts on tuna resources to be available for the 7th Intergovernmental Panel on Climate Change report;
- develop the advanced warning system to allow fine-scale resolution capabilities, decadal and seasonal forecasting, the integration of economic models, and optimisation and sensitivity analyses;
- validate methodologies for the integration of Coupled Model Intercomparison Project 6 environmental forcing, and lower and mid-trophic level abundance and biodiversity.

*Capability amongst Pacific fisheries professionals*

- deliver graduate, post-graduate and vocational training to Pacific Island professionals to support, operate and apply the advanced warning system;
- train specialist Pacific Marine Specimen Bank samplers for deployment in the region;
- provide professional development opportunities for Pacific Island fisheries professionals through secondments and training within the Pacific Marine Specimen Bank and the Pacific Community;
- re-establish biological sampling capacity in the Regional Observer Programme by providing refresher training to qualified and registered observers in Pacific Marine Specimen Bank sampling; and
- supplement national capacities through enhanced technical capabilities within regional agencies.

**Actions required by HoF**

15. To acknowledge the contribution by New Zealand Government to establish the infrastructure, baselines and capability for an advance warning system to be developed to assist countries with developing adaptations of their tuna fisheries and economies to climate change.

## The Australian Department of Foreign Affairs and Trade “Assessment of climate change vulnerability of Pacific Ocean resources – 10-year update”.

### **Status**

16. 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).

17. Progress to date includes:

- habitat spatial analysis for coral reefs, seagrass and mangroves in 14 PICs has been completed
- methods for the coastal fisheries and food security analyses have been reviewed and updated
- draft literature review for coastal fish and invertebrates based on documented sensitivities to climate change has been completed
- reviewed and developed methods to derive productivity assessment outputs for coastal fisheries analyses. Preliminary results for productivity assessment completed for 14 PICs that will be updated once more current coastal fish catch and consumption data are available.

18. Challenges and emerging issues include:

- Methods used for the 2011 assessment are not well documented therefore there will be differences between 2023 and 2011 results, particularly for coastal fisheries productivity and food security. This will make comparisons problematic.
- There are limited climate data relevant for mangrove habitats at the spatial resolution required, and therefore the analysis will be a simplified version supplemented by qualitative commentary.
- Some data requests are yet to be filled, impacting the ability to complete the coastal fisheries productivity and food security analyses. The reduced time for these analyses and missing data will result in a simplified analysis with preliminary results available only and agreed extensions to submitting the draft and final reports.

19. 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.

### **Actions required by HoF**

20. To note the progress and that the project remains on-track to meet all expected outcomes.

## The Global Environment Facility Initiatives.

### Status

21. 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”.
22. The Sustainable Management of Tuna Fisheries and Biodiversity Conservation in the Areas Beyond National Jurisdiction (ABNJ2) 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. The Letter of Agreement with the FAO is expected to be signed by June 2023.
23. 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. OFMP3 commenced in July 2022.
24. Both GEF projects have a 5-year duration.

### Actions required by HoF

25. Note the impending commencement of the ABNJ2 project.

Annex 1. Progress reporting – FAME’s Climate Work Programme

Theme: knowledge generation		Theme: generation of regional and national capability		Theme: solutions	
KRA	Progress	KRA	Progress	KRA	Progress
Fishery vulnerability		Information systems		Responsive monitoring systems	
Species vulnerabilities		Attachments		Indicators	
Range shifts		Post graduate qualification		MSE compatible products	
Marine heatwave impacts		Short course curriculum		Economic forecasts	
Adaptive capacity		Partnerships		Decision ready products	
Data systems		Secondment, visiting fellows, resident thinkers		Small-scale tuna fisheries	
Stock dynamics					
Fishery forecasting					
Ocean forecasting					
Adaptation triggers					
Gear innovation					
Food systems					

  

Progress key	
	<b>Significant progress</b> Progress towards results met or exceeded target last year or reported more outcomes and impacts
	<b>Some progress made</b> Some progress has been made towards meeting target last year (50-99%) or reported more outputs and few outcomes or impacts
	<b>No overall progress</b> No overall progress has been made in this KRA last year (1-49%) or there is no data available in this reporting period
	<b>Moving away from making progress</b> There is negative progress towards this KRA last year or there is no data available in this reporting period



