



# Seventh SPC Regional Technical Meeting on Coastal Fisheries and Aquaculture

19–22 November 2024



Original: English

Information paper 3

Pacific Island country and territory coastal fisheries and aquaculture  
priority technical needs, issues, challenges and actions

SPC FAME

## Pacific Island country and territory coastal fisheries and aquaculture priority technical needs, issues, challenges and actions

### *Summary*

1. Prior to each Regional Technical Meeting on Coastal Fisheries and Aquaculture (RTMCF), SPC member Pacific Island countries and territories are sent a template to capture current national coastal fisheries and aquaculture priority technical needs, issues, challenges, and actions taken since the previous RTMCF.
2. As RTMCF6 last year was the first fully in-person RTMCF since RTMCF3 (Oct 2019), PICT members were able to present their current national coastal fisheries and aquaculture priority technical needs, issues, challenges and actions taken since RTMCF5.
3. However, as RTMCF7 is a fully virtual RTMCF, due to the time and format constraints of online meetings, SPC requested members to submit their responses which have been compiled in this Information paper, and will be presented in summary form to RTMCF7.
4. The purpose of this Information paper is to collate the information provided by PICT members, to assist participants reflect on the various priority technical needs, issues and challenges across the Pacific Islands region.

**Information paper 3 has been posted on the RTMCF7 website with all PICT member submissions received by Friday 22 November 2024.**



## Pacific Island country and territory coastal fisheries and aquaculture priority technical needs, issues, challenges and actions

### Coastal fisheries

Pacific Island country or territory	Coastal fisheries priorities	Coastal fisheries issues or challenges	Actions taken since RTMCF6 (13-17 Nov. 2023)
	Provide a <i>very brief</i> description of your two highest coastal fisheries priority technical needs	Briefly outline 2-3 of your <b>main technical issues or challenges in coastal fisheries</b> over the last year	Briefly outline 2–3 <b>follow-up actions</b> that your agency has taken over the last year related to the <u>RTMCF6 Outcomes and Agreed Action Plan</u> <sup>1</sup> [Numbers refer to the Action Report item]
<b>American Samoa</b>	<ol style="list-style-type: none"> <li>1. Data management and analysis of coastal fisheries data, Training and performing of coastal fisheries stock assessments, capacity building/training.</li> <li>2. Evaluation of existing Fisheries regulations to develop new regulations and update existing ones.</li> <li>3. Develop best management practice options to address watershed and land-based sources of pollution issues to minimize impacts on coastal fisheries.</li> </ol>	<ul style="list-style-type: none"> <li>• Lack of a centralized database for all coastal fisheries data</li> <li>• Insufficient technical knowledge and expertise in developing water quality thresholds to evaluate coral and fish health</li> <li>• Lack of ability to develop management actions that would improve understanding of ecosystem functions, services, and the relationship between these services and coastal fisheries and associated habitat</li> <li>• Lack of cost-benefit analyses and impact assessments of coastal developments on marine ecosystems affecting fisheries resources</li> <li>• Lack of nature-based solutions to mitigate the impacts of climate change on the marine environment</li> </ul>	<ul style="list-style-type: none"> <li>• Initiated the update of the Fishery Regulations</li> <li>• Launched Marine Biosecurity component of the Territorial Biosecurity Framework (Invasive Species)</li> <li>• Collaborated with other federal and local agencies to implement watershed management</li> <li>• Improved surveillance within Village Marine Protected Areas</li> <li>• Secured funding and participated in Coral restoration training</li> </ul>
<b>Cook Islands</b>	<ol style="list-style-type: none"> <li>1. Training and capacity building in fisheries-independent survey data analysis, in particular best practice for statistical analyses</li> </ol>	<ul style="list-style-type: none"> <li>• Determining best practice for fisheries independent data analysis</li> </ul>	<ul style="list-style-type: none"> <li>• Action 18a – Bonefish Feasibility completed for Penrhyn island</li> </ul>

<sup>1</sup> <https://www.spc.int/digitalibrary/get/5o6ab>



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	<p>Provide a <i>very brief</i> description of your two highest coastal fisheries priority technical needs</p> <ol style="list-style-type: none"> <li>2. Develop a framework of policies and regulations specifically management rules, community-based management, livelihoods, traditional management systems and importantly awareness and compliance for the Cook Islands</li> <li>3. Develop supplementary alternative livelihood opportunities to enhance economic resilience and food security.</li> <li>4. Developing communications strategies for disseminating data to communities</li> <li>5. Improve data collection and its management</li> </ol>	<p>Briefly outline 2-3 of your <b>main technical issues or challenges in coastal fisheries</b> over the last year</p> <ul style="list-style-type: none"> <li>• Developing effective communication for disseminating data to communities</li> </ul>	<p>Briefly outline 2–3 <b>follow-up actions</b> that your agency has taken over the last year related to the RTMCF6 Outcomes and Agreed Action Plan<sup>1</sup> [Numbers refer to the Action Report item]</p> <ul style="list-style-type: none"> <li>• Action 26a – Coastal Fisheries and Aquaculture Policy update is in progress.</li> <li>• Action 29c – Ikasavea training workshop happening this week, 12 MMR staff involved.</li> </ul>
Federated States of Micronesia	<ol style="list-style-type: none"> <li>1.</li> </ol>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
Fiji	<ol style="list-style-type: none"> <li>1. Strengthening data management: Enhance data collection, analysis, and utilisation to support decision-making and the development of effective management plans.</li> <li>2. Capacity building of fisheries agencies through training and support esp. for MCS purposes. For example, Installation of vessel tracking system for all Inshore Licensed vessel to improve proper management of the fishery, address IUU and enhance safety of licensed fishers</li> <li>3. Review of fisheries policies and legislations to address current issues in fisheries development and enforcement</li> </ol>	<ul style="list-style-type: none"> <li>• Using the updated IKASAVEA UVC survey apps and methodology. The very slow updates from SPC on the country analysed data via the new methodologies. Increasing pressure from partner NGOs on applicable methodologies.</li> <li>• Limited support for research of marine commodities- lack of expertise.</li> <li>• Diversify and enhance sustainable livelihood for our local fishers now to target DWS, Swordfish, sardinella, giant squid, etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption of IKASAVEA app</li> <li>• Ongoing review of Fiji Fisheries legislation</li> <li>• Launching of National Fisheries Policy on 09/10/2024</li> </ul>



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	<ol style="list-style-type: none"> <li>4. Relieve fishing pressure on coastal resources through FAD Fishing packaged training which include FAD deployment, FAD fishing techniques training, cold storage facility, post-harvest &amp; fish handling, data collection and product marketing training.</li> <li>5. Provide certified training for fisheries officers and opportunities for further studies to enhance capacity and retention of fisheries officers</li> <li>6. Support on development of Fisheries laboratory and capacity building programs for lab technicians and fisheries specialists</li> <li>7. Commodity profiling/Data Analysis from SPC/FAME for development or up-scaling of commodity to meet viable industry i.e. freshwater mussel, eel, etc.</li> <li>8. Reef replenishment through CBFM – giant clam, trochus and sandfish restocking.</li> <li>9. Address climate change impacts through reef monitoring, expanding ecosystems knowledge and impacts on fish distribution and behaviour and assessing the impacts of natural disasters.</li> <li>10. Develop harvest strategy for high value/demand species like kawakawa and donu, lobster, sea urchin and mud crab.</li> <li>11. Giant clams, trochus and sea cucumber culture and indicators developed and established. Validation mechanism for cultured commodities that is acceptable in world trade (not wild harvest under CITES).</li> </ol>		



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Guam	<ol style="list-style-type: none"> <li>Enhanced data collection to increase our understanding of fish dynamics and environmental changes for managing our inshore fisheries</li> <li>Enhanced Cooperative research efforts in conjunction with increased fisheries independent studies to deepen understanding and support sustainable fishery practices</li> </ol>	<ul style="list-style-type: none"> <li>Trying to promote nearshore pelagic fishing as a sustainable alternative to reduce dependence on vulnerable reef fish species, ensuring healthier reef ecosystems and supporting long-term fishery resilience.</li> <li>Habitat Degradation: Coastal development, pollution, coral bleaching due to climate change, all contributing to the increased vulnerability and depletion of our coastal fish species</li> </ul>	<ul style="list-style-type: none"> <li>Actions 36 and 39 – DAWR Fisheries section has deployed 2 new FAD systems to test the feasibility of a smaller easier to deploy FAD System. The cost of deploying FADS on Guam has nearly tripled in the last five years so exploring alternatives to reduce cost or maximise funding. The second component of this is seeking to purchase a dedicated Vessel specifically designed for deploying FADS.</li> </ul>
Kiribati	<ol style="list-style-type: none"> <li>Enhance the capability of coastal fisheries enforcement officers, to effectively and efficiently carry out their duty. This also includes proper capacity building in filing cases to easily track and manage cases and species Identification. Strengthen and shift from Paper based to electronic based monitoring, control, surveillance and enforcement activities. Which also include strengthening capacity building in data management.</li> <li>Strengthening of Research and Monitoring Unit in terms of building capacity in data analysis, use of remote sensing data to support reporting and monitoring, marine survey on species of interest such as sea cucumber and advanced methodology in stock assessment using genetic mapping.</li> </ol>	<ul style="list-style-type: none"> <li>Limited human resources for effective monitoring and enforcement</li> <li>Limited capacity in filing and management of cases</li> <li>Limited capacity in species Identification</li> </ul>	<ul style="list-style-type: none"> <li>In-country training on MCS&amp;E with SPC and MPI</li> <li>On-going training on MCS with USP/SPC</li> <li>Trial and installation of Pelagic tracking system on fishing boats to monitor fishing trips</li> <li>Development and endorsement of the new sea cucumber regulations</li> <li>Development of species management plans in close collaboration with MPI and SPC.</li> <li>Training on IKASAVEA application and lesson learnt</li> <li>Socioeconomic workshop</li> <li>Scaling up of CBFM course</li> </ul>



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Marshall Islands	1.	•	•
Nauru	1.	•	•
Niue	1.	•	•
Nouvelle-Calédonie	<ol style="list-style-type: none"> <li>1. PIL (Loyalty Islands Province): Increase the fleet of FADs. Increase the number of navigation permits. Support UCPM in promoting seafood products. PN (North Province): Perpetuate and strengthen tools for compiling and analysing coastal fishing data at country level.</li> <li>2. PIL: Test a lobster concentration device. Inventory of aquaculture development sites NP: Optimize/strengthen country-level coordination and harmonization tools for managing key resource species (sea cucumbers, coral reef fish, bumphead parrotfish, crabs, etc.).</li> <li>3. PIL: Consideration of the role of seafood in school canteens.</li> <li>4. Consideration of the place of seafood products in school meal programs. PN: Needs expressed in 2022 still valid: <ul style="list-style-type: none"> <li>• Review of new technologies to reduce vessel fuel consumption;</li> <li>• Develop and support professional and non-professional fishermen in data collection through digital and new technologies.</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>• PIL: <ul style="list-style-type: none"> <li>▪ Supporting fishermen in professionalizing fishing and improving profitability. Data collection.</li> <li>▪ How to encourage young people to enter the fishing trade.</li> </ul> </li> <li>• PN : <ul style="list-style-type: none"> <li>▪ Improve knowledge and acquisition of data on the resource</li> <li>▪ Bring professionals into compliance with ship safety regulations (training, ship plans, identification/acquisition of approved equipment, etc.).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• PIL : <ul style="list-style-type: none"> <li>▪ Supporting fishermen in bringing their boats up to standard</li> <li>▪ Adding value to and diversifying seafood products. Diversification of fishing techniques</li> </ul> </li> <li>• PN : <ul style="list-style-type: none"> <li>▪ In 2024, the new development code for the North Province came into force (March 2024). The book on the economic development of the fishing sector includes new provisions that strengthen financial support for projects to promote seafood products from professional fishing.</li> <li>▪ New fishing logbooks have been deployed with the support of the fisheries observatory to improve the accuracy of fishing data on a number of key species (sea cucumber, snapper, humphead parrot). The effectiveness of these logbooks will be measured in early 2025, when fishing authorizations are renewed.</li> </ul> </li> <li>• Other elements to highlight</li> </ul>



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Palau	1.	•	•
Papua New Guinea	1.	•	•
Polynésie Française	<ol style="list-style-type: none"> <li>1. Support in the development of framework documents (master plan and sectoral policy) for coastal and lagoon sectors</li> <li>2. Improvement of the biological and socio-economic data collection with regards to the goals outlined in the framework documents. Automate and simplify data digitally: <ul style="list-style-type: none"> <li>• Development of an online customs declaration platform (designed on the Pacific scale)</li> <li>• Interface adaptability to ease the data collection through Ikasavea app and assistance with implementation (collection protocol)</li> <li>• Training and support for data integration on Power BI to extract and share the data collected</li> </ul> </li> <li>3. Socio-economic studies:</li> </ol>	<ul style="list-style-type: none"> <li>• Difficulties to make a diagnosis highlighting the issues and challenges of the coastal and lagoon fishing sectors, hindering the development of relevant strategic directions</li> <li>• Collect necessary data (biological and socio-economic) to analyse and monitor the state of fisheries and make informed decisions</li> <li>• Gain and sustain skills at the Marine Resources Directorate in specific fields, especially in fisheries economics to expand on the framework document</li> </ul>	<ul style="list-style-type: none"> <li>• Action 15a – launch of a pilot data collection project in 5 islands to assess the state of stocks (training of samplers with TNC and use of the Fishkit tool)</li> <li>• Action 15a – carrying out a study to assess the consumption of lagoon products and the acquisition channels.</li> <li>• Action 15d – service for the development of the coastal and lagoon fishing master plan - in progress. Target : end of 2025</li> <li>• Action 15e – training of a fisheries agent and an aquaculture agent on the conduct of socio-economic studies (SPC, September 2024); 3 fishing agents use of R for processing existing data, (TNC, 2024), 1 agent for NDF sea cucumbers (SPC, 2024), 3 Ikasavea agents (SPC, 2024)</li> </ul>





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	<ul style="list-style-type: none"> <li>Implementation of the value chain and the structure of prices on the various large lagoon and coastal fisheries on formal and informal circuits</li> <li>Evaluation of the assistance measures (effects, impacts, ...)</li> </ul>		
<b>Samoa</b>	<ol style="list-style-type: none"> <li>Enhanced food security, community livelihoods and economic growth through sustainable development and management of coastal fisheries:               <ul style="list-style-type: none"> <li>Develop and review adequate and up to date coastal fisheries regulations and management plans in place such as, Coastal Fisheries Management and Development Plan, Trochus Management and Development Plan, Sea Cucumber Management and Development Plan</li> <li>Strengthen and encourage coastal communities' participation in the management of coastal fisheries resources through scaling-up CBFMP</li> <li>Improve coastal communities resilient and adaptation to climate change impacts on coastal fisheries resources and adjacent habitats</li> <li>Carry out fisheries socio-economic data analysis and produce a report.</li> </ul> </li> <li>Improved and strengthened capacity and human resource development to manage coastal fisheries:</li> </ol>	<ul style="list-style-type: none"> <li>Capacity development of coastal fisheries staff on the e-data collection and analysis using the Ikasavea. Need more follow-up and refresher training.</li> <li>Assistance in sourcing resources for e-data collection e.g. laptops and desktops.</li> </ul>	<ul style="list-style-type: none"> <li>Action 29a-e: Carry out Fisheries Socio-Economic Survey with SPC-FAME provided trainings for socio-economic survey data collection using the IKASAVEA app. Also provided face-to-face training on socio-economic concepts prior to field data collection.</li> <li>Action 32a-d: Carried out consultations on the Draft Sea Cucumber Regulation 2024 (Action 32 (a)). Also Samoa officials attended legislative drafting online course and able to draft Trochus Regulation. SPC-FAME provided support for an attachment in Fiji to prepare national workshop materials. SPC-FAME legal team and UC provided training for Samoa Fisheries, Attorney General's Office officials on legislative drafting based on the Samoan context early Nov 2024.</li> <li>Action 32e: Finalized coastal fisheries and aquaculture management plans through the support from SPC FAME and MPI-NZ.</li> </ul>



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	<p>Provide a <i>very brief</i> description of your two highest coastal fisheries priority technical needs</p> <ul style="list-style-type: none"> <li>• Strengthen technical, analytical skills and monitoring capability within the Coastal Fisheries Staff</li> <li>• Strengthen e-data collection and management for reporting purposes</li> <li>• Increase participation of all gender in planning and implementation of fisheries village bylaws, with a specific focus on increasing women and youth participation in coastal fisheries development and CBFM governance</li> </ul>	<p>Briefly outline 2-3 of your <b>main technical issues or challenges in coastal fisheries</b> over the last year</p>	<p>Briefly outline 2–3 <b>follow-up actions</b> that your agency has taken over the last year related to the <u>RTMCF6 Outcomes and Agreed Action Plan<sup>1</sup></u> [Numbers refer to the Action Report item]</p>
<p><b>Solomon Islands</b></p>	<ol style="list-style-type: none"> <li>1. Technical tools and equipment that can help with compliance in reducing the level of infringements and enforcing the national laws and regulations.</li> <li>2. Adequate training and capacity building, for example species identification training, species recognition or identification of key fish species, especially those that are regulated.</li> <li>3. Surveillance and monitoring training on remote monitoring tools, training in using GPS tracking, drones, satellite imagery and mobile applications for remote monitoring of inshore areas.</li> <li>4. Review of Inshore Regulations (Fisheries Management (Prohibited Activities) Regulations 2018), Provincial Ordinances and Community Management Plans</li> <li>5. Data Storage and Collection:</li> </ol>	<ul style="list-style-type: none"> <li>• Collection and storage of inshore fisheries data</li> <li>• Lack of technical resources for compliance</li> <li>• Geographically scattered islands, makes compliance and enforcement ineffective in the provinces and restrictive budget allocation to implement inshore activities</li> </ul>	<ul style="list-style-type: none"> <li>• Actions 29a, b, d – With the support of SPC, MFMR currently in the stage of developing an Inshore Database.</li> <li>• Actions 29c, e – With the support of SPC there have been series of trainings conducted on Ikasavea, Data analysis and NDC in last year and this year</li> </ul>



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	<ul style="list-style-type: none"> <li>Establishment of a Central Database for Inshore Fisheries and Aquaculture</li> <li>Strengthen and improve data collection across coastal program (market and household)</li> </ul>		
Tokelau	1.	•	•
Tonga	<p>1. Coastal fisheries monitoring programme:</p> <ul style="list-style-type: none"> <li>Market survey – crucial for collecting relevant information on fish markets and roadside stalls displaying marine products throughout Tonga. It is part of the Ministry’s mandate to gather dependent data that accurately represents the fishing industry in the Kingdom</li> <li>Landing Survey – the Ministry is working to collect information on landing sites and fishers participating in fishing trips. This data is crucial in guiding pathways toward sustainable fishing practices</li> <li>Field survey – this is independent information collected from underwater visual surveys, used for wild stock assessments and baseline data for monitoring the SMA network in Tonga</li> <li>SMA Upscaling Information Strategy – we</li> <li>are currently working on it with the help of cChange as we have implemented our information campaign for the next six months which ends in March 2025</li> </ul>	<ul style="list-style-type: none"> <li>Limited staffing is a constraint in implementing coastal fisheries monitoring programme.</li> <li>Limited budget has always been the issue when expanding and implementing the monitoring programme.</li> <li>Lack of expertise in certain areas of the monitoring programme. Data management and reporting are crucial to ensure the accuracy of the monitoring programme.</li> </ul>	<ul style="list-style-type: none"> <li>Squid fish training to by SPC to both community and fisheries officers</li> </ul>



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	2. Socio economic survey – collects information from households for key aspects of fisheries needed to understand fishing in Tonga		
Tuvalu	1.	•	•
Vanuatu	1.	•	•
Wallis et Futuna	<p>1. Methodological, legal and scientific support for the implementation and monitoring of the Wallis Customary Marine Protected Area project. Spearheaded by a collective of fishermen, this project stems from a growing awareness inspired by the La Mer, Notre Source de Vie (The Sea, Our Source of Life) communication/awareness campaign. It is supported by the department as a bottom-up initiative, and is cited in the 2024-2028 fisheries policy.</p> <p>2. Evaluation of the FAD programme to optimise it and support funding applications, which are becoming increasingly difficult to defend: the logistics are in place and the know-how is being consolidated. But these financial efforts are not producing, or are slow to produce, the expected/hoped-for effects in terms of the supply of pelagic fish on the market. e effectiveness of FADs is being questioned by decision-makers. Technical concerns remain unresolved (for example, distance from the coast: effectiveness vs accessibility/safety).</p>	<ul style="list-style-type: none"> <li>• Precariousness of the newly created Coastal Fisheries Observatory (CFO), an essential decision-support tool: Although included in the 2024-2028 fishing policy, it is currently reduced to a “volatile” full-time equivalent (junior contract engineer). To make its results more reliable in the service of more confident and convincing communication in support of shared resource management: The challenges are : <ul style="list-style-type: none"> <li>▪ Create an independent structure from the Fisheries Service.</li> <li>▪ Seek external and internal funding to provide it with the minimum human resources and means of action (one stable full-time equivalent +).</li> <li>▪ Obtain external scientific support.</li> <li>▪ Disseminate and popularise results for the general public and decision-makers.</li> </ul> </li> <li>• The population and decision-makers are still resistant to the implementation of regulatory constraints: the awareness-raising work, slowed down by the departure of the PROTEGE</li> </ul>	<ul style="list-style-type: none"> <li>• Adoption of a 2024-2028 policy that formalizes the Fisheries Observatory, the local fisheries committee of Wallis, and supports the Customary Marine Protected Area project...</li> <li>• Education on the marine environment and sustainable fishing: implementation of PROTEGE products (Educational kit, C2O participative monitoring kit) for schools and associations.</li> </ul>



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	<p>Provide a <i>very brief</i> description of your two highest coastal fisheries priority technical needs</p> <p>3. Training for fishermen: techniques for fishing pelagic and deep-sea fish, new targets and associated techniques (squid, small pelagics, sport fishing, etc.). The goal is to expand the range of techniques available to fishermen to cope with the uncertainties of fishing and adapt to seasonal and intra-seasonal variations.</p>	<p>Briefly outline 2-3 of your <b>main technical issues or challenges in coastal fisheries</b> over the last year</p> <p>project contractors, must be continued. The new consultation bodies (local fisheries committee) still need to be created, activated, and animated.</p> <ul style="list-style-type: none"> <li>• Difficulties in professionalising and structuring the sector: one challenge is to get fishermen to consider cooperation as a response to the common problems that are hampering the development of the inshore segment (bait supplies, fishing equipment, marketing, foresight) and to support them along this path. The Atelier du Pêcheur. “The Fisherman’s workshop”</li> </ul>	<p>Briefly outline 2–3 <b>follow-up actions</b> that your agency has taken over the last year related to the RTMCF6 Outcomes and Agreed Action Plan<sup>1</sup> [Numbers refer to the Action Report item]</p>



## Aquaculture

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	Provide a <i>very brief</i> description of your two highest aquaculture priority technical needs	Briefly outline 2-3 of your <b>main technical issues or challenges in aquaculture</b> over the last year	Briefly outline 2-3 <b>follow-up actions</b> that your agency has taken related to the <a href="#">RTMCF5 Outcomes and Agreed Action Plan</a> <sup>2</sup> [Numbers refer to the Action Report item]
<b>American Samoa</b>	<ol style="list-style-type: none"> <li>1. Need for infrastructure for an aquaculture facility</li> <li>2. Need capacity building on aquaculture systems appropriate to meet our aquaculture needs</li> </ol>	<ul style="list-style-type: none"> <li>• Lack of sustainable financial support</li> <li>• Lack of capability to conduct risk analyses (identify appropriate species) and dealing with proposed federal restrictions such as listing of giant clam species on the ESA</li> <li>• Coordinate permitting requirements for in-water structures to support aquaculture</li> </ul>	<ul style="list-style-type: none"> <li>• Launch Marine Biosecurity component of the Territorial Biosecurity Framework (Transportation of Live Animals such as Giant Clams)</li> <li>• Successfully received 657 <i>Tridacna derasa</i> species from Samoa to re-stock Fagaalu Village Marine Protected Area</li> </ul>
<b>Cook Islands</b>	<ol style="list-style-type: none"> <li>1. Operational requirements for mariculture hatcheries, including the need for expertise in biological management, aquaculture engineering, personnel and financial management.</li> <li>2. Capacity building: Training of staff in mariculture hatchery methods and operations.</li> </ol>	<ul style="list-style-type: none"> <li>• Human resources and technical skills</li> <li>• Infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>• Action 18a – Milkfish – Report for production potential completed for Penrhyn Island</li> <li>• Action 26a – Coastal Fisheries and Aquaculture Policy update is in progress.</li> </ul>
<b>Federated States of Micronesia</b>	<ol style="list-style-type: none"> <li>1.</li> </ol>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Fiji</b>	<ol style="list-style-type: none"> <li>1. Database for Aquaculture – for the better data collection and analysis in the technological era, this is one of the highest priorities.</li> <li>2. Capacity building for hatchery and extension staff (farm development)</li> </ol>	<ul style="list-style-type: none"> <li>• Lack of availability for the specialized aquaculture equipment's and the hands-on training on the usage of the machines.</li> <li>• Knowledge on the new hatchery techniques for aquaculture species</li> </ul>	<ul style="list-style-type: none"> <li>• Aquaculture Development plan – launch and implementation of aquaculture development plan in linkage to regional aquaculture development. ADP launched on 31/10/2024</li> <li>• Biosecurity Framework:</li> </ul>

<sup>2</sup> <https://www.spc.int/digitallibrary/get/5o6ab>



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	<ol style="list-style-type: none"> <li>3. Research and development for oyster hatchery – to support unfed aquaculture industry growth in Fiji.</li> <li>4. Grow-out techniques and reporting on sea cucumbers and inshore cultured commodities.</li> </ol>	<ul style="list-style-type: none"> <li>• Ageing broodstock for some of the key cultured species – need new varieties of the species that are more conducive to culture</li> </ul>	<ul style="list-style-type: none"> <li>○ Action 26 – The Ministry has been working closely with the line agencies to better protect and promote disease free aquaculture.</li> <li>○ Biosecurity Authority of Fiji in undertaking import risk assessment and inspection of all imported and export aquatic commodity.</li> <li>○ South Pacific Secretariat in providing training and technical support.</li> <li>• Above collaboration has assisted in prevention measure for disease and pathogen introduction.</li> </ul>
<b>Guam</b>	<ol style="list-style-type: none"> <li>1. Capacity building in mariculture hatchery methods in all aspects of larval rearing particularly in live feeds production, i.e., microalgae and zooplanktons (copepods, rotifers, artemia) and feeding regimens, larval rearing tank water management, and larviculture for the production of seed stocks</li> <li>2. Capacity building on In-country production of aquaculture feed using locally available ingredients and low-tech feed production equipment that aquaculture producers can operate to make feed onsite to minimize dependency on imported feed inputs</li> </ol>	<ul style="list-style-type: none"> <li>• Continued dependency on imported seed stocks to establish and sustain mariculture operations that may be vulnerable to supply chain disruptions, competing demands, and price fluctuations</li> <li>• Availability and expensive imported feeds which makes it difficult to achieve desired growth rates and profitability</li> <li>• Available and accessible capital to finance ongoing or startup aquaculture operations</li> </ul>	<ul style="list-style-type: none"> <li>• Action 19 – a staff member from the newly created Division of Aquaculture at the Guam Department of Agriculture participated in both PRAS subregional workshops on May 13–17 and then again on August 6–8, 2024 and provided feedback on Guam’s aquaculture priorities and challenges.</li> <li>• Action 24 – In the PRAS subregional workshop, Guam representatives expressed the need to address the challenges of continued dependency on imported, mariculture seed stocks and feed and the potential for introduced aquaculture pathogens through inadequate biosecurity measures. Representative sought assistance from SPC for training of Guam personnel in hatchery</li> </ul>



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			methods and operations, onsite feed production using mostly locally available ingredients and low-tech equipment, and regional aquaculture biosecurity measures.
<b>Kiribati</b>	<ol style="list-style-type: none"> <li>Water quality management: <ul style="list-style-type: none"> <li>Upgrade to seawater pump and filtration system to improve the quality of water and water circulation</li> <li>Monitoring devices – need of sensors and IOT devices to track parameters like salinity, temperature, and dissolve oxygen</li> </ul> </li> <li>Training and Capacity building: <ul style="list-style-type: none"> <li>Require more training on husbandry and handling of giant clam (<i>Tridacna maxima</i>) larvae, and rearing of sandfish during the settlement stage to improve the survival rate of the annual production</li> <li>Feasibility study training</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>Giant clam and sandfish spawning and rearing in the Tanaea Hatchery cannot happen since the water circulation is so weak that raceways in the extended area cannot be used due to insufficient water supply. Another concern is water quality, so an upgrade to the filtration system and provision of monitoring devices are required to ensure that seawater used during the rearing processes is safe.</li> <li>Most of our spawning runs are successful in both giant clams and sandfish. However, in giant clams, a high mortality rate can be observed from day 20 onwards every spawning run, whereas in sandfish, the mortality rate increases during the settlement stage. Therefore, capacity building in these areas is paramount to improve the annual production of the two species.</li> </ul>	<ul style="list-style-type: none"> <li>Marine survey/ stock assessment of sea cucumber</li> <li>Kiribati Mariculture Sector Assessment funded by FAO</li> <li>Endorsement of Aquaculture Regulation 2024</li> <li>Endorsement of Sea Cucumber Regulation 2024</li> <li>On-going community pond survey in the outer islands in close collaboration with China Aid</li> <li>Regional Biosecurity Virtual Workshops/Meeting</li> </ul>
<b>Marshall Islands</b>	1.	•	•
<b>Nauru</b>	1.	•	•
<b>Niue</b>	1.	•	•





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<b>Nouvelle-Calédonie</b>	<ol style="list-style-type: none"> <li>PIL (Loyalty Islands Province): Assessment of potential aquaculture sites and associated aquaculture development. PN (North Province): Review of remediation strategies for the effects of global warming on pond farming (rise of level 0, variability of farming environments, and zootechnical impacts on farming).</li> <li>PIL: Training of project leaders PN: Review of aquaculture-horticulture models using water enriched by farming for aquaculture irrigation purposes.</li> </ol>	<ul style="list-style-type: none"> <li>PIL: <ul style="list-style-type: none"> <li>Define and/or characterize aquaculture sites and associated aquaculture development</li> <li>Communicate to find potential project sponsors or project developers as written in the next column</li> </ul> </li> <li>PN: <ul style="list-style-type: none"> <li>Develop new aquaculture models (e.g. fish-farming, sequential aquaculture)</li> <li>Increase the resilience of pond farming to the effects of global warming (rise of level 0, variability of farming environments, and zootechnical impacts on farming).</li> <li>Source inputs, fry and equipment for setting up and running aquaculture farms.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>PIL: Field visit to the 4 islands</li> <li>PN: <ul style="list-style-type: none"> <li>In 2024, the new development code for the North Province came into force (March 2024). The book, which supports the economic development of aquaculture, introduces new aquaculture species deemed to be priorities in the North Province, for which project developers will benefit from increased financial support (up to 80% investment assistance).</li> <li>recruitment of an aquaculture technician = doubling of North Province's aquaculture support staff.</li> <li>signature of the province-state development contract for the modernization of the CCDTAM</li> </ul> </li> </ul>
<b>Palau</b>	1.	•	•
<b>Papua New Guinea</b>	1.	•	•
<b>Polynésie Française</b>	<ol style="list-style-type: none"> <li>Establishment of an effective traceability system necessary for the sustainable development of CITES-listed species (sea cucumbers and giant clams)</li> <li>Optimization of shrimp production in hatcheries: withdrawal of the use of OTC and</li> </ol>	<ul style="list-style-type: none"> <li>2 crisis episodes in shrimp hatcheries in 2023 and 2024</li> <li>Sea cucumbers growth to optimise</li> <li>Need for economic analysis tools and case studies to better support the development of certain sectors.</li> </ul>	<ul style="list-style-type: none"> <li>Action 15a – Development with the SPC of a digital tool that can help with the traceability of aquaculture products: Ikasavea</li> <li>Action 15g – Establishment of a partnership with the aquaculture high school for the production and agroprocessing of macroalgae and <i>Chanos chanos</i>.</li> </ul>



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	improvement if not maintenance of larval densities and survival.		
Samoa	<ol style="list-style-type: none"> <li>Enhanced food and nutritional security and economic growth through promoting and development of aquaculture: <ul style="list-style-type: none"> <li>Review National Aquatic Biosecurity Strategy</li> <li>Strengthen and encourage coastal communities participation in developing aquaculture through village grow-outs and fish farms</li> <li>Promote hands-on training opportunities for top priority potential commodities.</li> </ul> </li> <li>Diversified aquatic species that are potentially viable for farming and aquaculture: <ul style="list-style-type: none"> <li>Promote value-adding and market access for priority commodities</li> <li>Continue seed production for aquaculture and coastal fisheries restocking activities</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>Limited resources to maintain existing aquaculture hatchery operations.</li> <li>Capacity development in assessing other potential aquaculture commodities that are feasible for farming in Samoa.</li> </ul>	<ul style="list-style-type: none"> <li>Action 26a: Finalized Aquaculture Management and Development Plan 2024-2029.</li> <li>Action 26e: Carried out a peer-to-peer work attachment with Palau Bureau of Fisheries. Two staff from Samoa Aquaculture attended and worked with Palau Fisheries team on aquaculture activities including spawning of giant clams and other species.</li> </ul>
Solomon Islands	<ol style="list-style-type: none"> <li>GIFT tilapia – Completion of infrastructures, importation of specialised equipment, importation of feed and fish, quarantine processes and management of fish condition, disease identification and diagnosis, hatchery operations and management, digitize data information system, research trial of GIFT tilapia life cycle in the hatchery</li> <li>Seaweed – enhancement of seaweed production for existing commercial sites and to</li> </ol>	<ul style="list-style-type: none"> <li>Lack of lab facilities for quality testing and fish disease detection and treatment</li> <li>Contributes to limited technical knowledge for verifying of seaweed quality and fish diseases identification and appropriate diagnosis</li> <li>Limited space in the laboratory contributes to very low seed production and restocking of juveniles</li> </ul>	<ul style="list-style-type: none"> <li>Construction of important infrastructure completed/ongoing, specialised equipment paid/shipment in process, feed and fish permit in process, PEQ facility certification in process, workshop held on digitalizing data for inshore fisheries.</li> <li>Initiatives committed for Enhancement of seaweed production of the existing commercial sites</li> </ul>



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	<p>other provinces through materials support, technical training, localise exporters with controlled domestic price, digitize data information system, explore other farming methods such as rafting and floating methods</p> <p>3. Sea cucumber – enhancement seed production in the hatchery and restocking juveniles to the wild. Expand trial sites other sites identified, research on collectors for collecting wild juvenile using local materials, research trail on sandfish seed production</p> <p>4. Development of SOPs (Biosecurity Strategy, Aquaculture Management and Development plan, Importation Plan, Tilapia Action plan, Seaweed Action plan, Business and Risk management plan, Husbandry and seed production manual)</p> <p>5. Prawns: explore technical process of farm and hatchery management</p> <p>6. Mud crabs: explore technical process of farm and hatchery management</p> <p>7. Oysters: explore technical process of farm and hatchery management</p>	<ul style="list-style-type: none"> <li>• Most of the guidelines and SOP's on quality testing of seaweed and fish production is currently ongoing</li> <li>• Delays with our Financial processes and systems contributes to low output of activities.</li> </ul>	<ul style="list-style-type: none"> <li>• Sea Cucumber seed production is in its completion phase under the Japan OFCF support</li> <li>• Development of SOP's drafts and in process</li> </ul>
<b>Tokelau</b>	1.	•	•
<b>Tonga</b>	<p>1. Aquaculture Production Hatchery production:</p> <ul style="list-style-type: none"> <li>• Increase supply of spats to farmers through artificial spawning and spat collector programs</li> </ul>	<ul style="list-style-type: none"> <li>• Hatchery – currently, there is only 1 hatchery in Tonga located in the main Island. Expansion of hatchery to the outer Islands to cater to the growing numbers of aquaculture farmers.</li> </ul>	<ul style="list-style-type: none"> <li>• Spawning program ongoing for 3 commodities: winged pearl oysters, giant clam and sea cucumber (Priority 1)</li> <li>• Renovation of the Sopa Mariculture (hatchery) through the Tongafish Pathway Project,</li> </ul>



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	<ul style="list-style-type: none"> <li>Commodities – wing pearl oyster, giant clam, sea cucumber, tilapia and prawns</li> </ul> Farming production: <ul style="list-style-type: none"> <li>Feasibility study on inland fin fish farming e.g. Tilapia, mullet and milkfish</li> <li>Potential farming on inland lakes e.g. Nomuka, Vava'u and Niuafou'ou eg. Floating cage or pen culture, etc</li> </ul> 2. Monitoring Program <ul style="list-style-type: none"> <li>Improve monitoring program of aquaculture farming activities e.g. Feeding and water quality</li> <li>Aquaculture Database to improve storage of aquaculture information and reporting</li> </ul>	<ul style="list-style-type: none"> <li>Feed – No local produced feed. Access to feed through import only. Very limited access to feed results in limited production</li> <li>Limited technical capacity – There is still need for staff technical capacity building.</li> </ul>	<ul style="list-style-type: none"> <li>commenced beginning of 2024 and ongoing (Priority 2)</li> <li>Review Aquaculture Management &amp; Development Plan - completed (Priority 5)</li> <li>Aquaculture Section working together with consultant (under the Tongafish Pathway Project) in to develop database for Aquaculture – in progress (Priority 6)</li> </ul>
<b>Tuvalu</b>	1.	•	•
<b>Vanuatu</b>	1.	•	•
<b>Wallis et Futuna</b>	1. Rock oyster farming: creation of an experimental and demonstration pilot up to market launch, starting from spat collected in the environment 2. Technical assistance for a multi-species invertebrate hatchery project (sea cucumbers, clams, oysters): <ul style="list-style-type: none"> <li>assessment of the natural stocks concerned</li> <li>assistance in defining numerical objectives</li> <li>sizing study based on objectives</li> </ul>	<ul style="list-style-type: none"> <li>Lack of a technical contact within the relevant services and institutional partners</li> <li>Need for a demonstrator (rock oysters) to inspire potential project leaders</li> <li>Evaluation of the economic model and investment profile for the multi-species hatchery.</li> </ul>	<ul style="list-style-type: none"> <li>Adoption of a 2024-2028 start-up strategy, focusing in the short term on restoration invertebrates (giant clams, trochus) and income-generating invertebrates (sea cucumbers, rock oysters) leveraging a multi-species hatchery, and expanding in the medium term to include algae farming and shrimp farming.</li> </ul>