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Title:	Results reporting against FAME Business Plan – 2020
Author(s):	FAME MEL Team

Summary/short description/key points:

FAME annually collates key results against its Business Plan to report to various stakeholders – including contributing to the SPC-wide results reporting, implementing partners, donor partners and the Heads of Fisheries. With COVID-19 impacts on travel and social distancing, 2020 has been a challenging year for FAME and its members. This summary results highlights the 2020 achievements against the FAME Business Plan.

FAME is also developing an interactive results dashboard for members and partners to explore FAME's results. The results dashboard is available online for members and stakeholders to view (https://fameresults.org/results/).

Recommendations:

Members and partners are invited to note and review FAME's results for 2020 and provide any feedback.

Results reporting against FAME Business Plan – 2020

Overview

1. This working paper provides a summary of the performance of the Fisheries, Aquaculture and Marine Ecosystem (FAME) Division of SPC in 2020. It provides an overview of performance against the current Results Framework set out in the FAME Business Plan.

About FAME

2. FAME is one of SPC's oldest Divisions, providing scientific and technical expertise to support fisheries management and sustainable development in the Pacific for over 60 years. Fish remains a fundamental and integral part of the Pacific narrative and will be for the foreseeable future. FAME's goal is that **fisheries resources of the Pacific region are sustainably managed for economic growth, food security and environmental conservation.**

3. FAME comprises three supporting programmes: the Oceanic Fisheries Programme (OFP), the Coastal Fisheries and Aquaculture Programme (CFAP), and the FAME Director's Office. Working with 22 Pacific Island Countries and Territories (PICTs), FAME has strong partnerships with regional, sub-regional and national entities working in fisheries and related areas.

Staffing

4. By the end of 2020, FAME had 94 staff members (50 men and 44 women), a slight drop from 98 (50 men and 48 women) in 2019. 5 new positions have been advertised as of February 2021. While the overall gender balance has improved by 8% over the last three years, there has been drop in female staff in 2020 by 2% and the gender imbalance between international and locally appointed staff remains, with 69% of international staff being male, and 88% of locally appointed staff female. As of February 2021, the Oceanic Fisheries Programme (OFP) has 55 staff, the Coastal Fisheries and Aquaculture Programme has 23 staff, and 21 staff from the Director's office. Most staff (90%) are based in Noumea, with 10 located elsewhere in Fiji, FSM, or Vanuatu. The current FAME staff number includes The Pacific-European Union Marine Partnership (PEUMP) programme staff implementing KRA1 and KRA3 and those in the multi-CROP KRA Programme Management Unit.

FAME performance against Business Plan

5. In 2017, FAME commissioned an independent Performance Review to critically assess FAME's current state and its fitness-for-purpose for the future. The review found that FAME has a clearly articulated strategic direction and found FAME to be very successful in delivering against all the identified Divisional objectives. Overall, FAME was found to be an effective and efficient Division, with FAME staff being committed to the Division's vision and having a strong work ethic[1].

6. Overall FAME was found to be responding well to current priorities and challenges in the region, however, FAME's ability to respond to future challenges and priorities was less clear. The review identified 15 recommendations designed to ensure FAME's fitness for purpose into the future with the Business Plan being refined accordingly to address these recommendations (see Working Paper 2 and Working Paper 3 from HoF11).

[1] CIRCA, 2017, FAME Performance Review, Available online: http://www.spc.int/DigitalLibrary/Get/7shzr

Progress towards FAME Business Plan outcomes and objectives

7. This year was the final year of the 2016-2020 FAME Business Plan, however, due to COVID-19 restrictions and the delay in SPC Strategic Plan 2021+, the business plan has been extended until end of 2021 in line with SPC Transition Plan 2021.

8. Overall, FAME is tracking well with the implementation of its Business Plan and performance against the objectives and key results areas, with a 115% budget execution rate and progress made toward 19 out of 21 key results areas. The 2020 reporting include results achieved as part of activities implemented in direct response to COVID-19.

9. In 2017, **FAME shifted its focus from reporting on activities, to focussing more on outcome-based results**, as endorsed by HOF10. As such, the key results below are those which demonstrate FAME's contribution to development outcomes across the region.

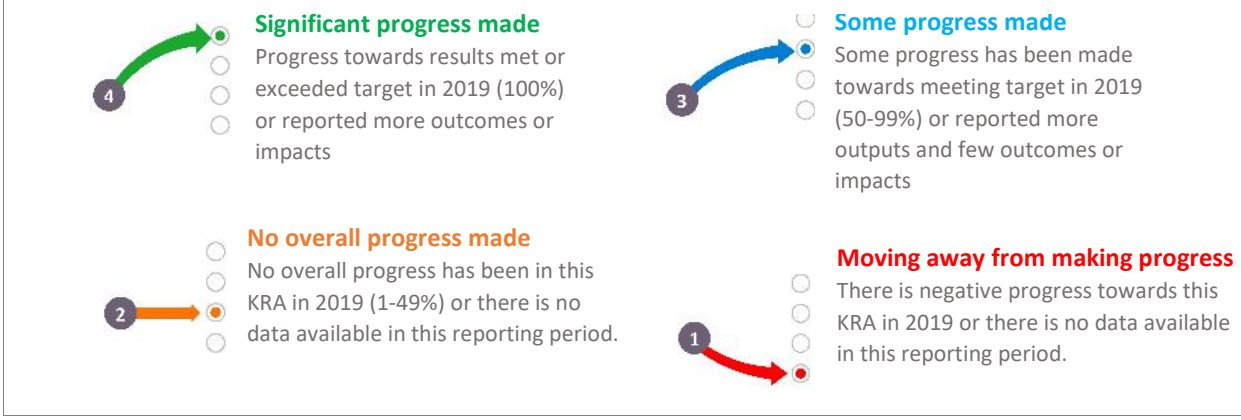
10. Table 1 summarises results rating for each key result area in the business plan. This assessment has been made based on key results achieved in 2020 as defined in Figure 1. Annex 1 below provides further detail on results by objective[2].

FAME's response to the impact of COVID-19

11. Due to COVID-19 travel restrictions and precaution measures imposed by member countries, FAME has adapted and innovated its ways of working and designed new initiatives to ensure it continues to be relevant in addressing the priorities and needs of member countries and territories. This included revising 2020 budget and shifting programme delivery to a fully interactive online platforms such as Zoom, Microsoft Teams, Slack and others.

12. The 12th SPC Heads of Fisheries (HoF) Meeting was held online utilising the Zoom platform and was attended by 115 participants from 20 member countries and territories, as well as donor partners, development partners, NGOs, and civil society organisations. All aspects of the meeting received positive ratings, with an average of 81% ratings above satisfactory.

Figure 1: How the results rating system is defined



[2] Note: Results from Table 3 represent description of much of SPC's work but not a comprehensive documentation of SPC's work in the region.

Table 1: Ratings on progress against FAME Key Results Areas, 2020

	FAME key result area	Rating
Outcome 1: High-quality science supports fisheries management at regional, sub regional, national and sub-national levels		
Objective 1: Enhance data collection and provide data management services for fisheries & marine ecosystems		
1.1	Enhance ecosystem, fisheries and biological data for key species	
1.2	Data acquisition, management and dissemination, including processing, auditing and consolidating data holdings	
1.3	Develop systems, tools and support services for standardised data collection, management and reporting	
Objective 2: Provide analyses and advice for evidence-based fisheries management		
2.1	Provide high quality stock assessments of key renewable oceanic resources and supporting data analyses	
2.2	Provide ecosystem, climate change, biodiversity, marine resource ecology and fisheries assessments, models and analyses	
2.3	Provide integrated social science and economic analysis and advice for informed decision-making	
2.4	Enhance existing and develop new modelling approaches to support scientific analysis and advice	
2.5	Strengthen and expand CEAFM and support the implementation of the 'New Song for Coastal Fisheries' strategy across the region	
2.6	Support the review and implementation of fisheries management legislation, policies, plans and MCS&E	
2.7	Support equitable access to shared benefits and decision-making, including women, young people and marginalised groups	
Outcome 2: High-quality technical assistance supports sustainable development		
Objective 3: Support the sustainable development of aquaculture		
3.1	Enhance regional and national policy, planning, MCS&E and legislation in the aquaculture sector	
3.2	Provide technical and analytic support for aquaculture to support production and economic sustainability	
3.3	Enhance the management of aquatic bio-security risks	

Objective 4: Identify diverse and sustainable marine-based livelihood options for fishing communities		
4.1	Test and develop innovative small-scale subsistence and commercial fishing opportunities	
4.2	Improve fish handling practices and promote value-added marine products	
4.3	Support the fisheries and aquaculture sectors to mitigate and respond to disasters and strengthen risk reduction	
Outcome 3: Information and capacity development empowers Pacific people to manage their fisheries		
Objective 5: Provide, and facilitate access to, fisheries information		
5.1	Develop information and knowledge products	
5.2	Facilitate information management and circulation	
5.3	Strengthen MEL and communicate FAME results and activities	
Objective 6: Support capacity development in fisheries and aquaculture among PICTs		
6.1	Design, deliver and quality assure regional vocational training in fisheries	
6.2	Enhance capacity development in science, technology, data management, analysis and advice	

Selected highlights for outcomes achieved in 2020

Objective 1: Enhance data collection and provide data management services for fisheries & marine ecosystems

13. Analysis of tuna muscle tissue samples suggest it is a good indicator of ecosystem health and demonstrated that over a period of 15 years, important changes at the base of the food web had occurred (Lorrain et all 2019). Tuna muscle tissue analysis also demonstrated that tuna do have a high degree of movement in some parts of the Pacific in comparison to other oceans (Logan et all 2020). These biological analyses were also published in a data paper making them available to the broader scientific community (Bodin et al 2020). The trophic ecology of two seabird species was examined using samples from the Pacific Marine Specimen Bank, demonstrating that the two species had dramatically different prey preferences and forage behaviour, hence avoiding competition (Ravache et al 2020).

14. **Stories of changes:** Tuna tagging research voyage in a COVID-19 environment

To comply with COVID-19 travel restrictions, the vessel that SPC chartered to implement the research agreed to cover the large distances involved in the voyage with no extra port calls.

The team completed a 49-day trip at sea and achieved one of the best results in history of similar tagging cruises, with 6,387 tuna tagged in 2020 compared to an average of 3,400 over the past 10 years. (Refer to Annex 1 for full FAME Performance story)

Figure 2: Large yellowfin tuna being tagged. Photo: SPC

15. The **TAILS data entry App** uploaded 52,435 fishing trips as of January 2021 – including more than 20,000 trips in 2020 compared to 18,945 trips in 2019. This represents a significant amount of data, clearly indicating the suitability of tablet-based data collection to meet the challenge of gathering small scale fisheries data in the Pacific context. Five years after the first 'Tails' logsheet, there are now 140 data collectors operating in 10 Pacific Island Countries and Territories, with 568 unique species logged, and 1.3 million kilos of fish recorded. This data has been used for important management decisions, as well as tracking nearshore FAD effectiveness and reporting of small-scale tuna catch to the WCPFC tuna commission.

16. In 2020, **16 of 17 PICTs met the July deadline for submitting their WCPFC Part 1 Report,** which indicates improvements in WCPFC Part 1 reporting requirements have been sustained since 2019.

17. As an ongoing improvement in **knowledge management in fisheries**, 399 documents were added to FAME digital library with additional 3 million downloads recorded in 2020.

18. In 2020, **eight PICTs continue to use SPC development systems –** including water quality monitoring in Cook Islands, giant clam mariculture monitoring and sea cucumber capture and export in French Polynesia; landing survey and socio-economic data collection in Kiribati, Wallis and Futuna; market survey data collection in Fiji and New Caledonia; aquarium fish and coral export in Kiribati, Marshall Islands; and sea cucumber survey in Tonga and Fiji.

19. **Stories of change: Ikasavea -** New web and mobile apps expand coastal fisheries data collection

The first version of the Ikasavea app was released in 2020, replacing traditional paper forms and improving data quality and availability by providing hints on species identifications and alerts for typos and outliers.

More than 400,000 fish measurements for 400 different species are now in the system.

With over 16,600 pictures of 225 species collected, SPC was able to create an artificial intelligence system that simplifies identifications by providing species predictions to users and makes data entry easier.

Figure 3: Testing IKA Survey App with Fiji Ministry of Fisheries Staff. Source: SPC (Refer to Annex 1 for full FAME Performance story)

Objective 2: Provide analyses and advice for evidence-based fisheries management

20. In 2020, analysis was undertaken by **SPC to assess the impact of drifting FADs on coastal ecosystems** with the goal of raising awareness about the detrimental impact drifting FADs on coastal ecosystems and reefs when they beach. In-countries data collection programs were launched in collaboration with fisheries department in Wallis and Futuna, the Cook Islands, French Polynesia, FSM and RMI. Data related to beached FADs will complement analyses from fishery data to better assess the impact of drifting FADs on coastal ecosystems and guide management decisions.

21. In 2020, in collaboration with fishing companies, SPC also **continued research on data from echo-sounder buoys deployed on drifting FADs**. Access to this novel data source is allowing investigations of tuna aggregations around FADs, which aims at developing alternative tuna abundance index that could be used in stock assessments

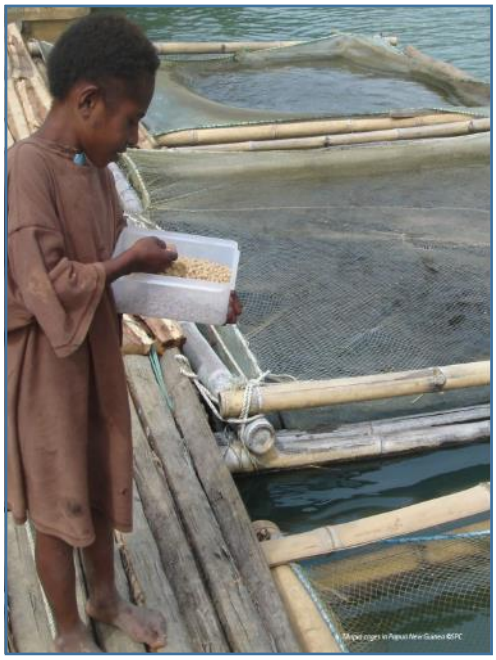
22. Tuna catch in the Western and Central Pacific Ocean (WCPO) totalled nearly 3,000,000 metric tons in 2020, a record catch level, which constituted 55% of the global tuna catch. All four key commercial tuna stocks - **skipjack, yellowfin, bigeye and South Pacific albacore** – have been recently assessed and are above agreed sustainable levels. This accomplishment is not matched by any other regional ocean in the world. The healthy status of WCPO tuna stocks is attributed to the management of the fishery through the WCPFC process and its members, including the key roles played by the Pacific Island member countries and subregional fisheries agencies including the Fisheries Forum Agency (FFA) and the Parties to the Nauru Agreement (PNA).

Objective 3: Support the sustainable development of aquaculture

23. As of the end of 2020, 14 PICTs were up to date on their aquatic disease status (Cook Is, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Federated States of Micronesia, New Caledonia, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu). Additional support was provided to Fiji, FSM, Kiribati, Tonga and Samoa on screening OIE shellfish listed disease and finfish diagnosis for New Caledonia. On-farm aquatic biosecurity support was also provided to New Caledonia, Fiji, Solomon Islands and Kiribati and animal welfare guidelines developed for French Polynesia and New Caledonia.

24. In 2020, 15 private sector aquaculture enterprises and 2 farmer associations from 8 countries were recipients of assistance under a grant agreement with SPC, resulting in enhanced skills and knowledge in financial management, business skills, leadership and people management.

25. **Stories of changes:** First Regional Framework on Aquatic Biosecurity



Recognising that improved aquatic biosecurity was essential for sustainable aquaculture, PICTs tasked SPC with assisting them to draft a regional strategy.

The resulting framework, which was developed in close consultation with members, was endorsed by the 12th Heads of Fisheries Meeting and recommended for implementation by the Regional Forum Fisheries Ministers Meeting in August 2020. The decision to implement the framework was the culmination of a high level of regional cooperation and ministerial-level engagement. It is the first regional framework for aquatic biosecurity endorsed at this level in the Pacific.

The Regional Framework on Aquatic Biosecurity now forms the basis for building members' capacity and has increased interest in, and ownership of biosecurity measures in several PICTs, including FSM, PNG, Samoa and Tonga.

Figure 4: Tilapia cages in Papua New Guinea. Photo credit: SPC ((Refer to Annex 1 for full FAME Performance story)

Objective 4: Identify diverse and sustainable marine-based livelihood options for fishing communities

26. In 2020, SPC deployed two FADS in New Caledonia and provided support to southern province fisheries staff to deploy two more in the southern province waters. The FADs survived two cyclones (Lucas and Niran) with waves as high as 7.11 metres.

Objective 5: Provide, and facilitate access to, fisheries information

27. FAME is in a process of **revamping its website** as a platform for communicating, sharing fisheries information and knowledge products with its members and stakeholders.

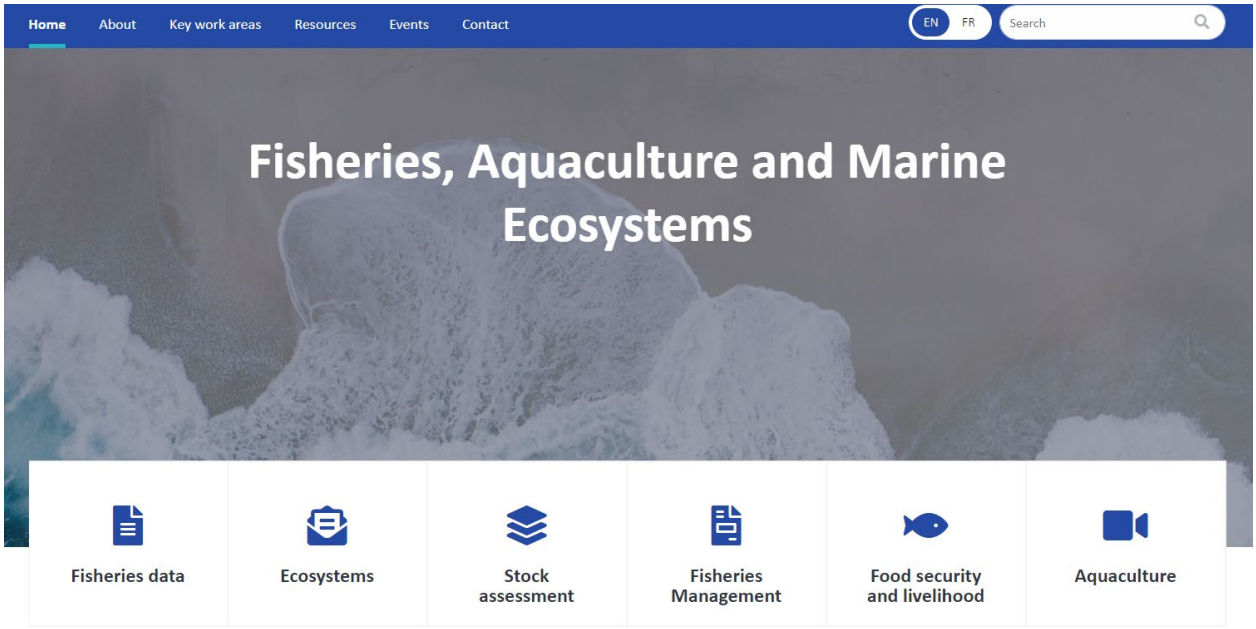


Figure 5: Screen shot of the FAME website prototype.

28. In 2020, FAME facilitated and disseminated 15 videos, 11 posters 8 brochures or leaflets in local languages to raise awareness at the national, sub-national and community levels on sustainable fishing methods and techniques.

Figure 6: Tonga Special Management Area brochure produced in Tongan Language

Objective 6: Support capacity development in fisheries and aquaculture among PICTs

29. In 2020, FAME adapted to the impacts of COVID-19 travel and social restrictions by adopting online platforms to continue its capacity development activities for the benefit of PICTs through mentoring and provision of trainings. **34** different types of trainings were delivered to **1,011** participants (46% female and 54% male) from 22 countries and territories in the region. Female participation in 2020 increased by around 19% compared to 2019.

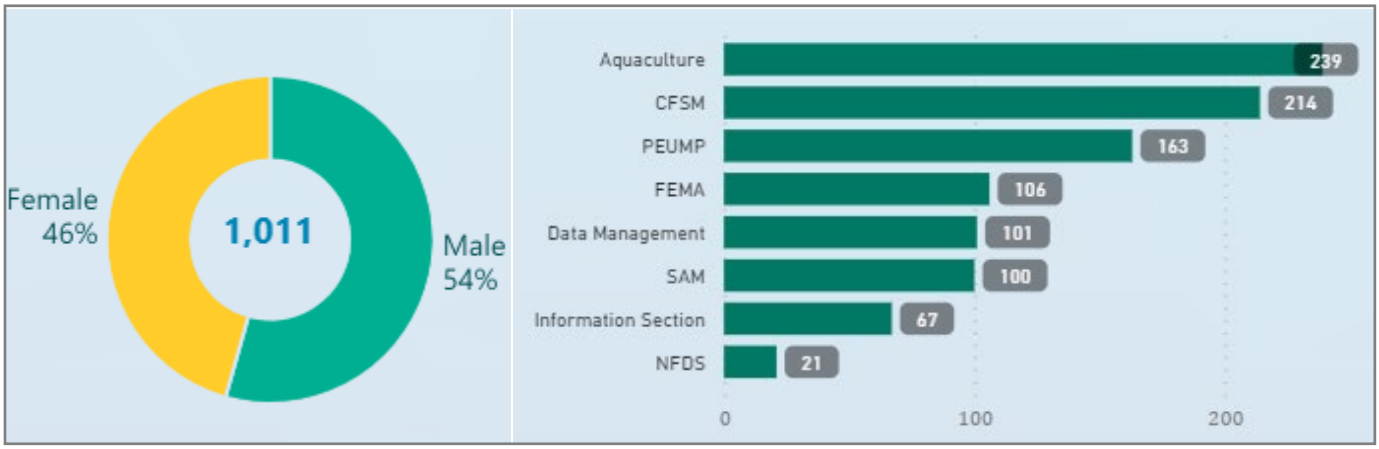


Figure 7: Total number of participants (46% female and 54% male) who participated in FAME facilitated trainings disaggregated by sections within FAME.

30. Post-training evaluations were completed by 593 participants of FAME's capacity development workshops (59% of 1011 participants) in 2020. The participants were asked whether the training provided was relevant to their work and whether they gained new skills and knowledge. On average, 90% (compared to 89% in 2019) of the participants indicated they improved their knowledge of the subject matter as a result of the trainings.

31. The participants were also asked whether they would use the new skills and knowledge when they returned to their home countries. Almost 92% (compared to 90% in 2019) of the participants indicated they would incorporate what they have learned into their work.

32. In 2020, Fiji, Kiribati, Solomon Islands, Tonga makes up more than half of the total number of participants (63%) who participated in the training and mentoring programmes.

33. FAME is implementing a major evaluation to assess the impact and effectiveness of its capacity development work and initial analysis of the findings will be presented in this meeting (information paper no. 4).

34. In 2020, 86% (n=593: 53% female and 47% male) of participants who responded to post-training evaluations, rated FAME's approach and method in delivering trainings highly against various criteria - such as relevance to their job, clear objectives of the trainings, content structure, topics covered, opportunity for participants to engage and ask questions, increase knowledge and use of skills or knowledge in their work.

35. Between 2016 and 2020, a total of **4,691** (3,342 male and 1,349 female) participants from member countries attended various FAME mentoring and trainings programmes, with 60% participating

through the Coastal Fisheries Programme, 35% through the Oceanic Fisheries Programme[3] and 5% from Director's Office (including PEUMP and Information sections). More than half of the total number of participants during this period came from Fiji, Kiribati, Tonga, Papua New Guinea, Vanuatu and Solomon Islands.

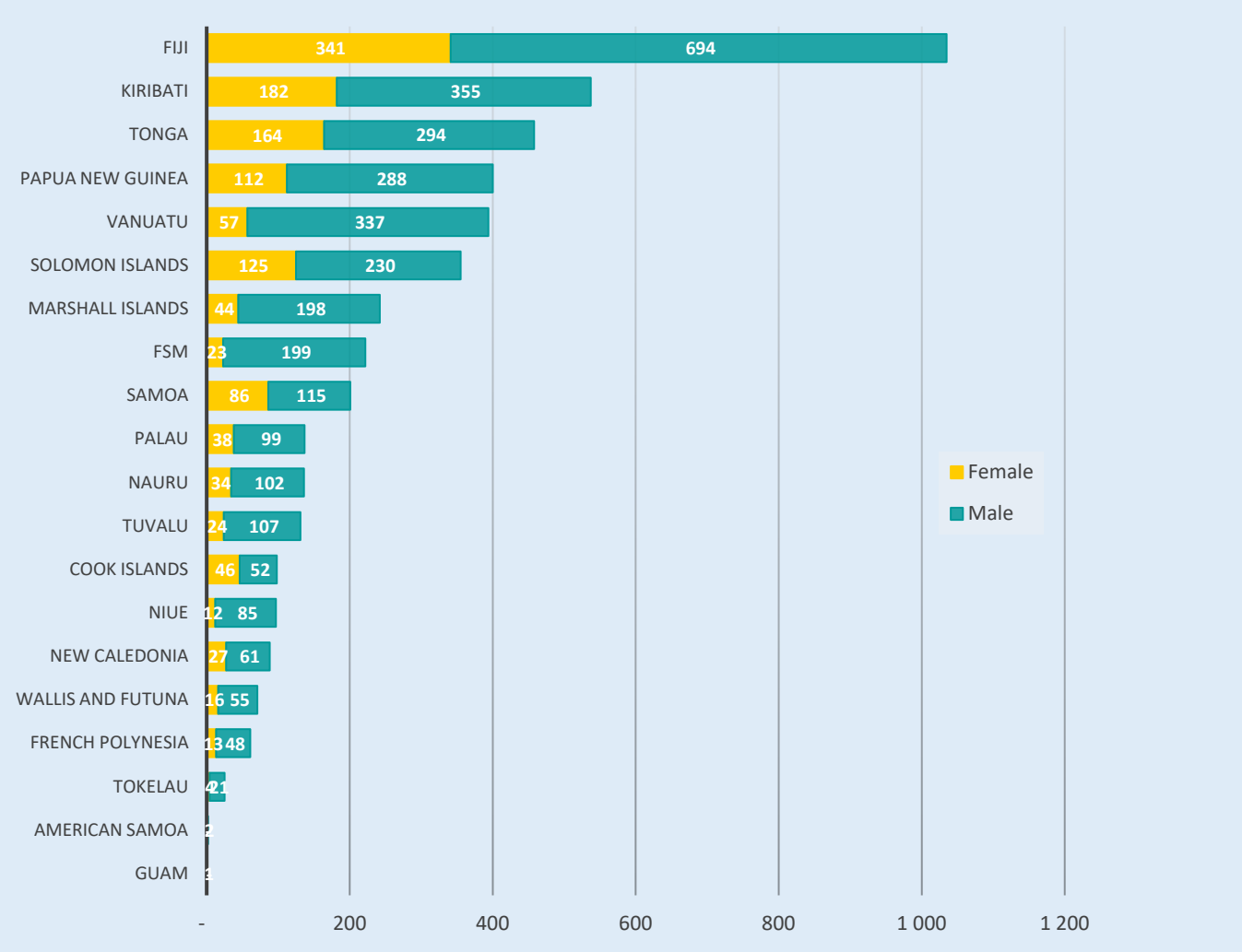


Figure 8: Training participants from member countries in 2016-20

[3] 2016-20 training and the Results dashboard is available on https://fameresults.org/training which will later be deployed on FAME website.

Case Study: Adapting to new norm in COVID-19 world

PACIFIC FISHERIES
LEADERSHIP PROGRAMME

36. The Pacific Fisheries Leadership Programme (PFLP), funded by New Zealand Government, is implemented by a consortium led by SPC with FFA, University of Queensland, People Focus and the Centre for Adaptive Leadership. Participants are selected from the region and participate in a modular programme including leadership for effectiveness, leadership experience and leadership for change.

37. The PFLP was designed as an adaptive programme, that reflects on progress, tests different approaches, and makes ongoing iterations as it strives to continuously learn to improve the delivery and outcomes of the programme. The expected long-term outcomes include improved quality and diversity of leadership and management in priority sectoral areas that conform to the progress of the implementation of the "Regional Roadmap for Sustainable Pacific Fisheries"

38. In 2020, the COVID-19 situation with restrictions impacting travel and regional gatherings required the need for PFLP to re-scope the design, as the core modality of delivery were face-to-face workshops and mentoring were no longer feasible.

39. The newly scoped activities are being delivered fully online, utilising various online platforms (Howspace and Zoom). The online learning platform has been developed to host interactive sessions, including group and individual communication, online programme guidance and materials, and customised access to learning resources.

40. A call for expressions of interest to members countries went out in June for a *Leadership for effectiveness* course. An overwhelming response was received from fisheries officials with almost 80 applicants expressing an interest, which is the highest number of applicants ever received for any PFLP cohort.

41. A *Leadership in times of crises* course, which targets senior fisheries leaders in the region, was successfully conducted in September 2020 with senior leaders including Director FAME, Director General of FFA and other PICT leaders.

Annex 1: 2020 key results against FAME business plan objectives

Outcome 1: High-quality science supports fisheries management at regional, sub-regional, national and sub-national levels[4]

Objective 1: Enhance data collection and provide data management services for the fisheries and marine ecosystems

Key Results Area 1.1: Enhance ecosystem, fisheries, and biological data for key species

FEMA & CFSML sections within FAME responsible for this Results Area.

- In 2020, 12,214 additional tissues samples were collected for the Pacific Marine Specimen Bank. This brings the overall totals for the Tissue Bank to 131,896 samples collected from 1,359 trips, with analysis undertaken for 36,686 samples.

  Countries: *Regional (ALL PICTs)*

- In 2020, 6,387 fish were tagged and released during the 49 day- fourteen Central Pacific (CP14) tagging cruise (68% bigeye, 27% yellowfin and 5% skipjack). 64 fish (44 bigeye and 20 yellowfin) were implanted with an archival tag. 32 bigeye were implanted with an acoustic transmitter to study their spatial behaviour around a drifting FAD. In addition, 155 bigeye, 14 skipjack and 89 yellowfin received an injection of strontium chloride that will deposit a mark in their otoliths to better evaluate the rate of growth in these species when recaptured. Biological sampling effort was also undertaken with 528 fish sampled. Genetic samples were taken from bio sampled fish of all species, and from a subset of conventionally tagged tuna prior to release. Live tissue biopsies were also taken from 5 oceanic white tip and 50 silky sharks.

  Countries: *Regional (ALL PICTs)*

- Five scientific papers based on the use of samples from the Pacific Marine Specimen Bank. Analysis of tuna muscle tissue samples suggest it is a good integrator of ecosystem processes and demonstrated that over a period of 15 years important changes at the base of the food web occurred (Lorrain et al 2019). Tuna muscle tissue analyses also demonstrated that tuna do have a high degree of movement in some parts of the Pacific in comparison to other oceans (Logan et al 2020). These biological analyses of tuna muscles were also published in a data paper making them available to the broader scientific community (Bodin et al 2020). Micronekton samples from the New Caledonia area were analysed to characterise species assemblages of tuna forage and their spatial distribution (Receveur et. 2020). Trophic ecology of two seabird species was examined using samples from the Pacific Marine Specimen Bank, demonstrating that the two species had dramatically different prey preferences and forage behaviour, hence avoiding competition (Ravache et al 2020).

  Countries: *Regional (ALL PICTs)*

- In 2020, data on invertebrates was collected in one PICT (Fiji) which will contribute to the status of invertebrates. Data on Finfish was collected through market survey or landing survey in 4 PICTs (Fiji, Kiribati, New Caledonia and Wallis and Futuna) and will contribute to regional assessment of life-history of targeted species in 2021.

  Countries: *Fiji, Kiribati, New Caledonia, Wallis and Futuna*

Key Results Area 1.2: Data acquisition, management and dissemination, including processing, auditing and consolidating data holdings

FEMA, DM and CFSML sections within FAME responsible for this Results Area.

- In 2020, 514 longline fishing trips have been received from the ONBOARD electronic reporting application, coming from 74 distinct vessels. 10 PICTs used ONBOARD in 2020, compared to 8 PICTs in 2019. Lower trip numbers in 2020 due to COVID-19 impact on French Polynesia fishing fleet.

  Countries: *Fiji, FSM, New Caledonia, Niue, French Polynesia, Solomon Islands, Tokelau, Tonga and Samoa*

[4] Note: Results highlighted in this annex represent the key results of FAME's work but not a comprehensive documentation of all activities undertaken in 2020 given the focus on reporting results and outcomes.

- 5 PICTs are using OnShore for port sampling and/or biological sampling (French Polynesia, FSM, Marshall Islands, Tonga, Samoa). 582 port samplings have been conducted on the app in between Jan-December 2020.

  Countries: *French Polynesia, FSM, Marshall Islands, Tonga and Samoa*

Key Results Area 1.3: Develop systems, tools and support services for standardised data collection, management and reporting

FEMA, DM and CFSML sections within FAME responsible for this Results Area.

- As of the 1st January 2021, more than 52,435 fishing trips have been uploaded using the 'Tails' data entry app, including more than 18,945 trips in 2020 alone. This is a significant amount of data, and a clear indication of the suitability of tablet-based data collection to the challenge of small scale fisheries data in the Pacific context . Five years after the first 'Tails' logsheet, there are now 140 data collectors operating in 10 Pacific Island countries and territories, with 568 unique species logged, and 1.3 million kg of fish recorded. These data have been used for important management decisions, as well as tracking nearshore FAD effectiveness and reporting of small-scale tuna catch to the WCPFC tuna commission.

  Countries: *Regional (ALL PICTs)*

- The rollout of OnBoard continued in 2020 with 499 longline logsheets (fishing trips) entered from 73 longline fishing vessels using the application in six PICTs (Cook Islands, Fiji, French Polynesia, New Caledonia, Tonga and Samoa). Note that total longline trips in the region are lower due to the effects of covid-19 on the fishing industry, which explains the decrease in total OnBoard trips from 2019 to 2020.

  Countries: *Cook Islands, Fiji, French Polynesia, New Caledonia, Tonga and Samoa*

- 399 documents were added to the SPC FAME digital library in 2020 with a total of 3,003,474 downloads recorded this year. Ongoing active use of SPC developed systems in 8 PICTs, for water quality monitoring (Cook Islands), giant clam mariculture (French Polynesia), sea cucumber capture and export (French Polynesia), landing survey data (Kiribati, Wallis & Futuna), socio-economic data (Kiribati), market survey data (Fiji & New Caledonia), aquarium fish and/or coral export (Kiribati, Marshall Islands), sea cucumber survey data (Tonga, Fiji), monitoring control & surveillance (Tonga), Coconut crab survey data (Fiji).

  Countries: *Cook Islands, French Polynesia, Kiribati, Wallis and Futuna, Fiji, New Caledonia, Marshall Islands and Tonga*

- In 2020, FAME developed:
  - Web module for landing surveys, socio-economic surveys, and species information (biology, conversion factors, legal size)
  - Ikasavea tablet extended to incorporate landing surveys
  - Analysed pictures for reading fish sample data from photos
  - Fish species identification from picture using Artificial Intelligent for market & landing surveys web modules

  Countries: *Regional (ALL PICTs)*

- 17 PICTs required to submit WCPFC Part 1 reports met the 13 July deadline in 2020, with just one PICT being late. This means improvements in meeting WCPFC annual Part 1 reporting requirements has been sustained since last year..

  Countries: *Cook Islands, Federated States of Micronesia, Fiji, French Polynesia, Marshall Islands, Kiribati, Nauru, New Caledonia, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, Wallis and Futuna*

Outcome 2: High-quality technical assistance supports sustainable development

Objective 2: Provide analysis and advice for evidence-based fisheries management

Key Results Area 2.1: Provide high quality stock assessments of key renewable oceanic resources and supporting data analyses

FEMA, DM & SAM sections within FAME responsible for this Results Area.

- In 2020, 91 papers were delivered to the WCPFC in 2020 with authored or co-authored by SPC (77 to Scientific Committee, 7 to the Regular Session of the WCPFC and 7 to the technical and compliance committee). Compared to 2019, 17 more papers were authored for the Scientific Committee meeting with SPC authors.

  Countries: *Regional (ALL PICTs)*

Key Results Area 2.2: Provide ecosystem, climate change, biodiversity, marine resource ecology and fisheries assessments, models and analyses

FEMA, DM, SAM & CFSML sections within FAME responsible for this Results Area.

- In 2020, analysis was undertaken by SPC to assess impact of drifting FADs on coastal ecosystems continued with the intention to increase the awareness about the detrimental impact drifting FADs have on coastal ecosystems and reefs when they beach. In-countries data collection programs were launched in collaboration with fisheries department in Wallis and Futuna, the Cook Islands, French Polynesia, FSM and RMI. Data related to beached FADs will complement analyses from fishery data to better assess the impact of drifting FADs on coastal ecosystems and guide management.
- In 2020, in collaboration with fishing companies, SPC also continued research on data from echo-sounder buoys deployed on drifting FADs. Access to this novel data source is allowing investigations of tuna aggregations around FADs, which aims at developing alternative tuna abundance index that could be used in stock assessments.

  Countries: *Regional (ALL PICTs)*

- Total catch of tuna in the Western and Central Pacific Ocean (WCPO) totaling nearly 3,000,000 metric tons in 2020, a record catch level, which constituted 55% of the global tuna catch. All four key commercial tuna stocks - skipjack, yellowfin, bigeye and South Pacific albacore – have been recently assessed and are above agreed sustainable levels. This accomplishment is not matched by any other regional ocean in the world. The healthy status of WCPO tuna stocks is attributed to the management of the fishery through the WCPFC process and its members, including the key roles played by the Pacific Island member countries and subregional fisheries agencies including the Fisheries Forum Agency (FFA) and the Parties to the Nauru Agreement (PNA). While challenges remain in rebuilding several species of shark and billfish, several important conservation efforts have been implemented.

  Countries: *Regional (ALL PICTs)*

- • National level analysis on the status of invertebrates (sea cucumber) were provided to 3 PICTs (Fiji, Tonga and Samoa).
  • Sea cucumber sea ranch viability assessment, analyses, and report was provided to Tonga
  • National level analysis on the status of invertebrates (mud crab) were provided to Pohnpei state in FSM (publication of report in 2020)
  • Support and training for invertebrate species surveys and analysis (coconut crab, sea cucumbers) for 7 PICTs (Fiji, Tonga, Solomon Islands, Vanuatu, Papua New Guinea, New Caledonia, Niue);
  • Support on sea cucumbers were also related to development of NDFs following the listing of two species listed under CITES appendix II in August 2020.

  Countries: *Fiji, Tonga, Samoa, FSM, Solomon Islands, Vanuatu, Papua New Guinea, New Caledonia, Niue*

Key Results Area 2.3: Provide integrated social science and economic analysis and advice for informed decision-making
SAM. AQ & CFSML sections within FAME responsible for this Results Area.

- In Analysis of key coastal habitats for two PICTs (Fiji, Marshall islands) was undertaken. Report to be published 2021.
  Countries: *Fiji, Marshall Islands, New Caledonia*

Key Results Area 2.4: Enhance existing and develop new modelling approaches to support scientific analysis and advice
FEMA and SAM sections within FAME responsible for this Results Area

- In 2020 workshops on the implementation of harvest strategies were run in five countries: PNG, Tonga, Fiji, Japan (electronic) and Tuvalu (electronic). 88 participants attended (47 men and 41 women). Overall, the workshops were rated as highly relevant by the participants, with a majority indicating they gained crucial knowledge and skills that they would apply in their work, their understanding of harvest strategies increased, and they would recommend similar training to others. Many also stated that they would benefit from additional training on harvest strategies.

  Countries: *Papua New Guinea, Tonga, Fiji, Tuvalu*

Key Results Area 2.5: Strengthen and expand CEAFM and support the implementation of the 'New Song for Coastal Fisheries' strategy across the region
AQ, SAM & CFSML sections within FAME responsible for this Results Area

- In 2020, the Coastal Fisheries Report Card included Household Income and Expenditure Survey data from 10 PICTs compared to 12 in 2019. The decrease was exclusion of two PICTs whose HIES was conducted 2010. The Coastal Fisheries Report Card was presented to the Forum Fisheries Ministers Meeting.
  Countries: *Regional (ALL PICTs)*

- 2020 was the second (first virtual) meeting of the Special Regional Fisheries Ministerial Meeting (RFMM) for ministers to discuss coastal fisheries and other fisheries related issues not covered by the FFC Ministerial which focusses on Tuna. In that meeting, the ministers endorsed the proposed mechanism for increasing the engagement of non-state actors in the regional coastal fisheries management.
  Countries: *Regional (ALL PICTs)*

- SPC Heads of Fisheries also had its first annual (virtual) meeting in light of the new annual Fisheries Ministers meeting. This signifies the operationalising of the regional mechanism for coastal fisheries, beginning with the Regional Technical Meeting for Coastal Fisheries, to HoF, to the RFMM, which then feeds into the Forum Leaders Meeting.
  Countries: *Regional (ALL PICTs)*

Key Results Area 2.6: Support the review and implementation of fisheries management legislation, policies, plans and MCS&E
FEMA, DM, SAM & CFSML sections within FAME responsible for this Results Area

- In 2020, FAME launched a comparative tool named ReefLex (Pacific Law & Policy Database on Coastal Fisheries & Aquaculture). REEFLEX is a tool used by fisheries managers, legal experts and MCS specialists to provide advice to PICTs on existing laws and policies on coastal fisheries and aquaculture in the Pacific region. FAME staff relies on it to identify current trends in coastal fisheries and aquaculture regulations in response to queries from PICTs fisheries agencies. It is also an invaluable tool for reporting purposes (e.g., Coastal Fisheries Report Card). In 2020, there were around 11000 downloads with about 1200 users accessing Reeflex.
  Countries: *Regional (ALL PICTs)*

- In 2020, FAME supported the drafting of legislation on coastal fisheries penalties in Kiribati, on marine resources in Niue, on fisheries management in New Caledonia, and on sea cucumber fisheries in Fiji.
  Countries: *Kiribati, Niue, New Caledonia and Fiji*

- In 2020, FAME supported the development, review and update of Management Plans for Aquaculture, FAD, Giant Clam, Pearl Industry, Trochus, Coral Reef and Road Map for Tonga, Vanuatu, Cook Islands, Fiji, FSM, Kiribati, Palau, Samoa, Solomon Islands and Vanuatu.

  Countries: *Tonga, Vanuatu, Solomon Islands, Samoa, Fiji, Cook Islands, Kiribati, Palau, Papua New Guinea, Federated States of Micronesia, Nauru, Marshall Islands*

- FAME supported the development of policies and plans on coastal fisheries resources in Cook Islands, Fiji, Nauru and Vanuatu
  Country: *Cook Islands, Fiji, Nauru and Vanuatu*
- FAME organised a virtual gender and human rights training and consultation workshop in collaboration with HRSD, training 60 participants (46 women and 14 men) from 9 PICTs across ministries (justice, fisheries, women).

  Country: *Cook Islands, Fiji, FSM, Kiribati, Solomon Islands, Samoa, Tonga, Marshall Islands and Vanuatu*

Key Results Area 2.7: Support equitable access to shared benefits and decision-making, including women, young people and marginalized
ALL FAME sections are responsible for this Results Area

- Analysis on gender issues (including access and control of fisheries resources) in coastal fisheries conducted in Cook Islands.

  Countries: *Cook Islands*
- The 2nd edition of the Handbook on Gender and Social Inclusion (GESI) in coastal fisheries and aquaculture with analysis on GESI sensitive approaches to management and livelihood work.

  Country: *Regional (ALL PICTs)*
- Gender and Social Inclusion / Human Rights tailored capacity building activities for coastal fisheries in 2020 resulted in increased knowledge and understanding (ratings of 4.56 out of 5) among participants.

  Country: *Regional (ALL PICTs)*
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  Country: *Regional (ALL PICTs)*

Objective 3: Support the sustainable development of Aquaculture

Key Results Area 3.1: Enhance regional and national policy, planning, MCS&E and legislation in the aquaculture sector

Aquaculture (AQ) & CFSML section within FAME responsible for this Results Area

- In 2020 FAME provided technical assistance for the review and updating of:
  - 2 national aquaculture development plans (Vanuatu and Cooks Islands).
  - 2 national aquaculture regulations (Marshall Islands and Kiribati)
  - 5 national reports on aquaculture business investment risk analysis (Palau, FSM, RMI, Kiribati & Nauru
  - Draft aquaculture legislation in Kiribati and French Polynesia
  - Development of policies and plans on aquaculture in Vanuatu.

  Countries: *Vanuatu, Cook Islands, Marshall Islands, Kiribati, Palau, FSM, Nauru, French Polynesia, Vanuatu*

Key Results Area 3.2: Provide technical and analytic support for aquaculture to support production and economic sustainability

Aquaculture (AQ) section within FAME responsible for this Results Area

- In 2020, FAME provided specific support to aquaculture farmers – including:
  - Fiji - on-going extension support provided to tilapia farm cluster groups in Tailevu, Nadi and Savusavu. Technical support to one tilapia farmer in Fiji to develop a business plan and establish her very first hatchery using an improved method of producing tilapia through an incubation system to strengthen her business.
  - PNG - Provided farm extension support to farmer cluster groups in Sirinumu on Sogeri Plateau north Port Moresby
  - Business literacy trainings provided to 147 aquaculture farmers in 3 countries: 24 giant clams and sea cucumber farmers were trained in Kiribati (21 men and 3 women), 72 seaweed farmers were trained in Solomon Islands (48 men and 24 women) and 51 community pearl farmers were trained in Fiji (32 men and 19 women).

  Countries: *Fiji, Kiribati, Papua New Guinea, Solomon Islands*

- Fiji – Established a community pearl farm to diversify from luxury round pearl production to producing edible pearl meat for food as a post-COVID adaptation. A total of 49 participants attended a pearl oyster management training.
  Countries: *Fiji*

- In 2020, FAME provided technical and analytical support to enhance aquaculture production. Some of these including:
  - Two countries received support to strengthen capacity in aquaculture data collections [Fiji and Vanuatu]
  - Technical assistance with respect to mariculture hatchery design and engineering provided to three PICTs [Tuvalu, Vanuatu, and New Caledonia].
  - Wallis – in-country mission in collaboration with the PROTÉGÉ Project to conduct a feasibility study and identify potential aquaculture opportunities.
  - Vanuatu hosted a subregional training on sea cucumber (sandfish) which was attended by 17 participants from Fiji, Kiribati, Tonga and Vanuatu.
  - Facilitated support to aquaculture officers in two countries (Fiji & Solomon Islands) who attended a virtual tilapia breeding training. Fiji cut short due to TC Yasa, Solomon Is completed.
  - New Caledonia – technical assistance provided to New Caledonia on giant clam hatchery and husbandry
  - Fiji -tilapia marketing study was conducted in the municipal markets in Suva and Nausori and road-side sellers to gain an understanding of the market chain of the product in Fiji.
  - USP-IMR report was completed on tilapia market value adding.

  Countries: *Fiji, New Caledonia, Solomon Islands, Tuvalu, Vanuatu, Wallis and Futuna*

- Three aquaculture interns (all women) completed 6-month internship programme based in Suva. One was hired by FAO as national Project Assistant with a FAD project in Fiji.

  Countries: *Fiji*

- In 2020, FAME provided support to 15 private enterprises and two farmer association groups in business management, leadership and managing people. One private sector aquaculture enterprise was supported to diversify from export oriented cosmetic industry to domestic product development (value-adding) due to COVID-19 and producing seaweed for food in local food industry.

  Countries: *Fiji, Papua New Guinea, Solomon Islands, Kiribati, FSM, Marshall Islands, Tonga, French Polynesia, New Caledonia*

- FAME supported the development of Regional Framework on aquatic biosecurity that was endorsed by Regional Fisheries Ministers Meeting in August 2020.

  Countries: *Regional (ALL PICTs)*

- FAME provided a virtual regional training on gender and social inclusion for private sector aquaculture enterprises for 16 participants from 5 PICTs (Kiribati, PNG, Solomon Islands, Tonga and Fiji)

  Countries: *Fiji, Kiribati, Papua New Guinea, Solomon Islands, Tonga*

3.3 Key Results Area 3.3: Enhance the management of aquatic bio-security risks

Aquaculture (AQ) section within FAME responsible for this Results Area

- 14 PICTs are up to date on their aquatic disease status 2020 (Cook Is, Fiji, French Polynesia, Guam, Kiribati, Marshall Islands, Federated States of Micronesia, New Caledonia, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga and Vanuatu).

- FAME provided following support for PICTs to meet OIE requirements:
  - Screening of OIE shellfish listed disease was done for 5 PICTs (Fiji, FSM, Kiribati, Tonga & Samoa) and one finfish diagnosis done for New Caledonia
  - On-farm aquatic biosecurity technical assistance provided to 4 PICTs (New Caledonia, Fiji, Solomon Islands, Kiribati)
  - Developed animal welfare guideline for French Polynesia and New Caledonia

  Countries: *Regional (ALL PICTs)*

Objective 4: Identify diverse and sustainable marine-based livelihood options for fishing communities

Key Results Area 4.1: Test and develop innovative small-scale subsistence and commercial fishing opportunities

CFSML section within FAME responsible for this Results Area

- In 2020, FAME deployed two FADS in New Caledonia and provided support to southern province fisheries staff deploy two more in the southern province waters.

  Countries: *New Caledonia*

Outcome 3: Information and capacity development empowers Pacific people to manage their fisheries

Objective 5: Provide, and facilitate access to, fisheries information

Key Results Area: 5.1 Develop information and knowledge products
FEMA, DM, SAM, AQ, CFSML & IM sections within FAME responsible for this Results Area

- In 2020, FAME produced:
  - SPC Beche-de-mer Information Bulletin #40
  - SPC Women in Fisheries Information Bulletin #31 and #32
  - 3 SPC Fisheries newsletter English + 3 French

  Countries: *Regional (ALL PICTs)*

5.2 Facilitate information management and circulation
Information Management (IM) sections within FAME responsible for this Results Area

- In 2020, FAME produced and published a fishery address book, nine bulletins, four reports, 15 manuals, two policy briefs, three leaflets, 11 awareness and training videos (English and French).
- FAME facilitated and disseminated the following fisheries information and products:
  - The status of sea cucumber stocks in the Kingdom of Tonga
  - Assessment of the coconut crab (Birgus latro) at Palmerston Atoll, Cook Islands
  - National Strategy on Aquatic Biosecurity for the Federated States of Micronesia
  - Status of mangrove crabs (Scylla serrata) around Pohnpei Island, Federated States of Micronesia in 2018
  - Comparison of artisanal fishing activities across a human population gradient in Kiribati, and the potential impacts on six targeted reef fish species
  - Guide relatif au bien-être des animaux d'aquaculture en Polynésie française
- FAME also facilitated and disseminated 15 videos, 11 posters, 8 brochures or leaflets in local languages to raise awareness at national level.

  Countries: *Regional (ALL PICTs)*

- In 2020, 67 (11 males and 56 females) participants were trained in fisheries information production and dissemination

  Countries: *Regional (ALL PICTs)*

5.3 Strengthen MEL and communicate FAME results and activities

- Strengthening monitoring, evaluation and learning relating to capacity development activities. Feedback surveys were completed by 593 participants from 11 sessions of FAME's capacity development workshops (59% of 1011 total participants), in which participants were asked a range of questions included whether they gained new knowledge, and whether they would be able to incorporate learnings into their work. This is an increase from 2019 in improving coverage of participant feedback and follow up across all capacity development activities.

  Countries: *Regional (ALL PICTs)*

Objective 6: Support capacity development in fisheries and aquaculture among PICTs

Key Results Area 6.2: Enhance capacity development in science, technology, data management, analysis, and advice

Information Management (IM) sections within FAME responsible for this Results Area

- In 2020, FAME facilitated, mentored and enhanced skills and knowledge of fisheries officials and partners in the region by entirely delivering online. Key results including:
  - a total of 944 (539 males and 405 females) participants attended FAME facilitated trainings compared to 774 in 2019. A 19% increase of participation from female from the 2019 trainings.
  - 93% (n=593: 53% female and 47% male) of participants in post training evaluations mentioned change in knowledge as a result of FAME trainings compared to 89% in 2019.
  - 92% (n=593: 53% female and 47% male) of participants who responded to post-training evaluation, mentioned they would incorporate what they have learned into their work compared to 90% in 2019.
  - 86% (n=593: 53% female and 47% male) of participants who responded to post-training evaluations, rated highly of FAME's approach and method of delivering trainings on various criteria - such as relevance to their job, clear objectives of the trainings, content structure, topics covered, opportunity for participants to engage and ask questions, increase knowledge and use of skills or knowledge in their work.

Country: *Regional (ALL PICTs)*

FAME results are available online, including performance stories, training dashboards and coastal fisheries report cards. Go to www.fameresults.org to view more of FAME results.

Pacific Community
Communauté du Pacifique

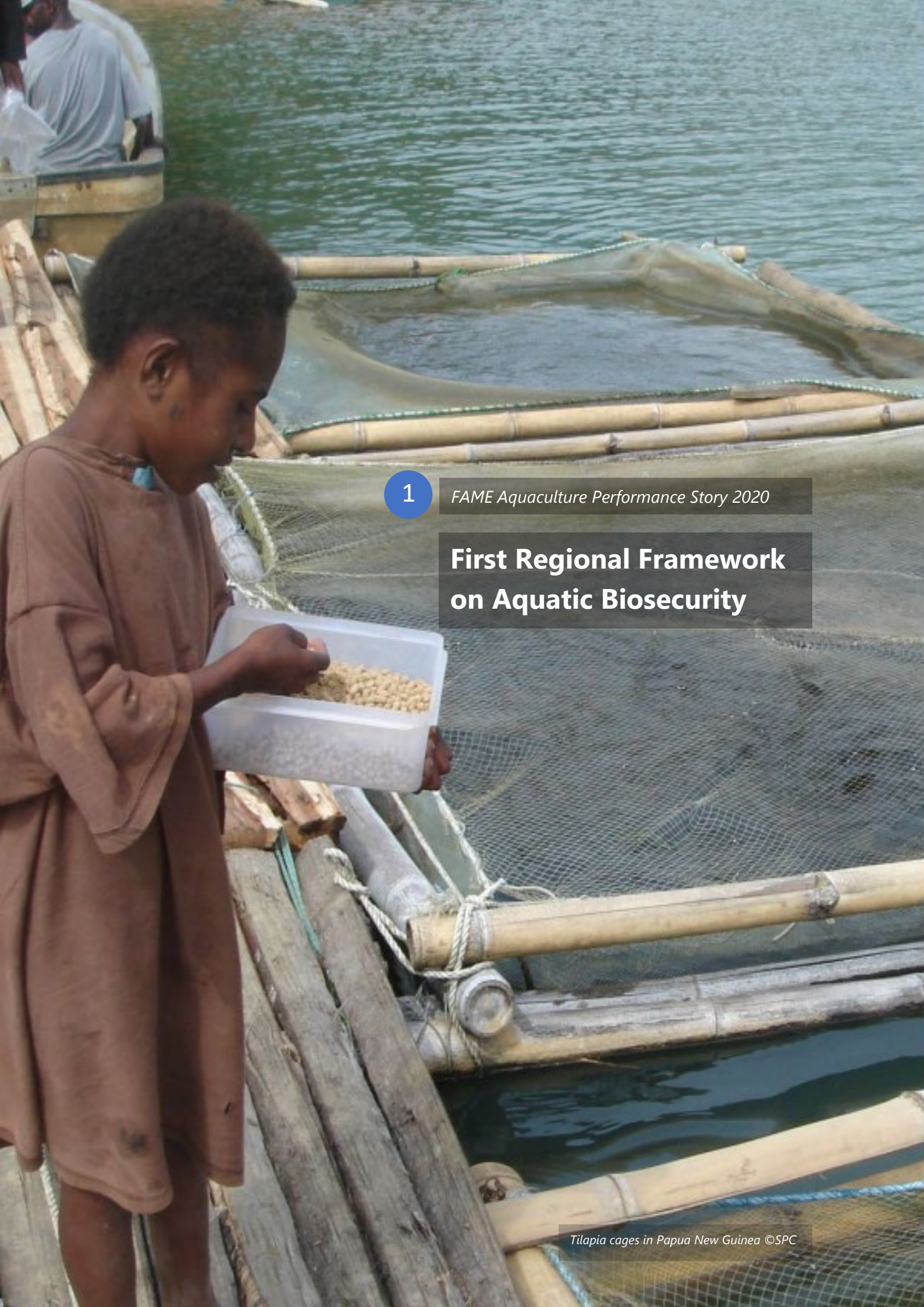
Annex 2:
FAME performance stories



2020 Results Reporting

Division of Fisheries, Aquaculture and Marine Ecosystem

Divison pêche, aquaculture et écosystèmes marins



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FAME Aquaculture Performance Story 2020

First Regional Framework on Aquatic Biosecurity

Tilapia cages in Papua New Guinea ©SPC

First Regional Framework on Aquatic Biosecurity

Context

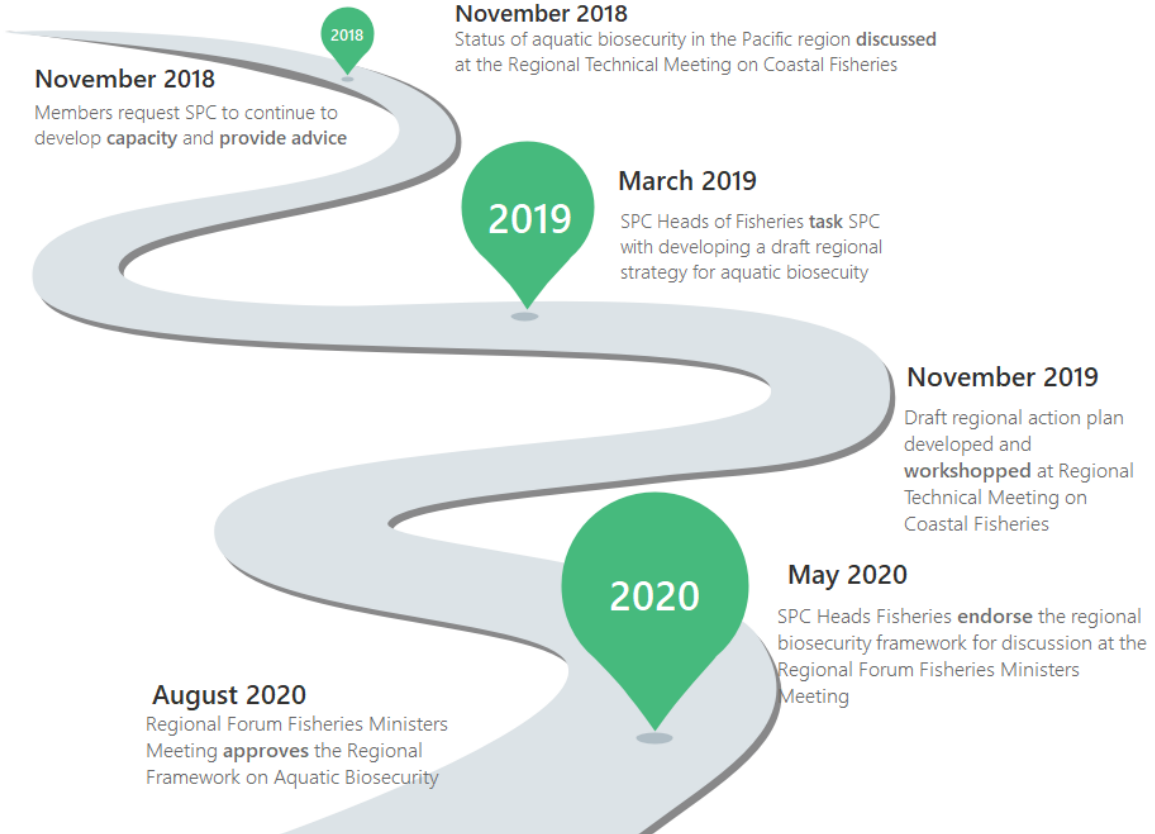
Aquaculture is an important and expanding sector in the Pacific, providing food, creating jobs and improving livelihoods. However, the sector faces significant biosecurity risks with the movement of people and goods, import of various agriculture products including seafood, and frequent introduction and reintroduction of aquatic species for aquaculture purposes. These risks are coupled with limited border control measures, national resources and capacity, and infrastructure for safeguarding aquatic biosecurity.

Aquatic biosecurity is a system of procedures dealing with risks of diseases, pests and other hazards in the aquatic environment. Over the past five years, SPC has provided its members with technical and financial assistance to develop national standards for importing and exporting aquatic organisms and products, build capacity in aquatic animal welfare and disease management, and establish governance systems including national aquatic biosecurity strategies and regulations.

Despite these advances at national levels, the lack of proper systems for managing aquatic biosecurity threats in the region was recognised as risking the introduction and spread of aquatic invasive species and exotic diseases, loss of export markets and negative public perceptions of aquaculture products. SPC members identified the need for a regional framework on aquatic biosecurity to further develop capacity in this area and to raise awareness in PICTs of the importance of managing biosecurity threats related to aquaculture.

Change process

The status of aquatic biosecurity in the Pacific region was presented at the Second Regional Technical Meeting on Coastal Fisheries (RTMCF) in 2018 (Information Paper 06). As a result, the meeting requested SPC to continue to develop capacity in aquatic biosecurity and provide advice to members. A draft regional action plan on aquatic biosecurity was prepared by SPC as an outcome of the 11th Heads of Fisheries Meeting in 2019. The draft plan, which incorporated case studies from FSM, New Caledonia and Tonga, was discussed at a workshop during the Third RTMCF in 2019 to assess members' readiness and capacity to implement a regional plan and also to identify challenges and capacity needs.



Results and impact

Recognising that improved aquatic biosecurity was essential for sustainable aquaculture, PICTs tasked SPC with assisting them to draft a regional strategy. The resulting framework, which was developed in close consultation with members, was endorsed by the 12th Heads of Fisheries Meeting and recommended for implementation by the Regional Forum Fisheries Ministers Meeting in August 2020. The decision to implement the framework was the culmination of a high level of regional cooperation and ministerial-level engagement. It is the first regional framework for aquatic biosecurity endorsed at this level in the Pacific.

The Regional Framework on Aquatic Biosecurity now forms the basis for building members' capacity and has increased interest in, and ownership of biosecurity measures in several PICTs, including FSM, PNG, Samoa and Tonga.

The framework sets out the direction for aquatic biosecurity, gaps for engagement by stakeholders including members and partner agencies, and areas for SPC's support.

Countries have recognised the importance of this regional framework and have already started implementing it at the national level, for example by strengthening governance through developing national aquatic biosecurity strategies (PNG, Samoa and Tonga), investing in aquatic biosecurity facilities (Solomon Islands) and conducting aquatic disease testing in their facilities (Fiji, Kiribati, FSM and Tonga).

Lessons learned

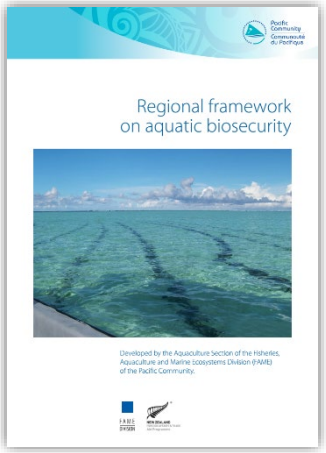
Developing a regional framework on aquatic biosecurity was a lengthy process, requiring sustained participation, and commitment by member countries and territories to providing guidance.

The success of the framework can be attributed to:

- a highly consultative process, ensuring national priorities are emphasised among the core technical areas of the framework;
- raising the profile within SPC of aquatic biosecurity as a key priority for the region, which helped generate the senior management support needed;
- endorsement by leaders, which was made possible by putting the framework on the agenda of important regional meetings, such as Heads of Fisheries and Regional Forum Fisheries Ministers.

The development of the framework has proved to be a helpful mechanism for SPC in seeking funding support from donor partners.

SPC members and other stakeholders contributed strongly to the development of the regional framework through their engagement, including at meetings of the RTMCF, Heads of Fisheries and Regional Fisheries Ministers.



Kiribati implements new regulations for coastal fisheries

Photo. C. Muron ©SPC

Kiribati implements new regulations for coastal fisheries

Context

In Kiribati, most coastal fisheries have traditionally been open access, with few restrictions for local fishers. Before the adoption of new regulations in 2019, the existing legislation covered only certain aspects of coastal fisheries. In addition, community-based fisheries management (CBFM) did not have a clear legal basis, and local projects and success stories were not able to be scaled up at national level.

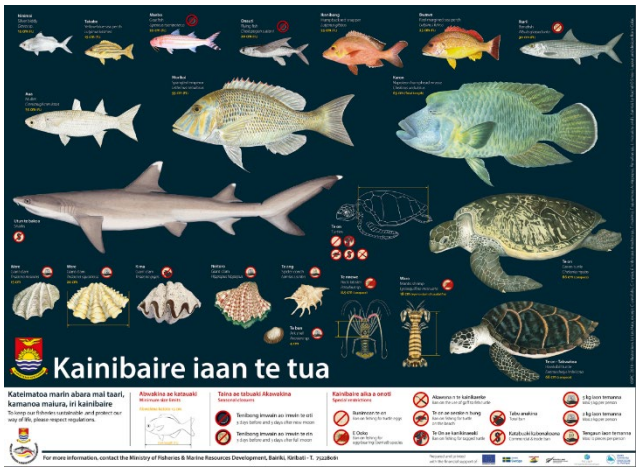
In 2017, the Government of Kiribati, through its Ministry of Fisheries and Marine Resources Development (MFMRD), requested SPC to provide support for regulating coastal fisheries. In particular, new regulations were needed to increase the sustainability of coastal fisheries while still ensuring food security for local communities. The new Coastal Fisheries Regulations 2019 provide a strong legal basis for CBFM and an opportunity to empower local communities to look after the marine resources they depend on for a living.

Change process

Under the MFAT-funded project, 'Effective coastal fisheries management', a team worked collaboratively to identify the right fisheries management measures, draft the legal provisions to make them enforceable, provide legal training to Kiribati government officers, and discuss the measures with government and non-government stakeholders.

Adopting a participatory approach, SPC and MFMRD worked in consultation with stakeholders and partners, including partners in the Australian Government-funded Pathways Project — the Australian National Centre for Ocean Resources and Security (ANCORS), Tobwan Waara (the framework for New Zealand's support for the marine resources sector in Kiribati), government agencies, fishers' associations and NGOs — to ensure smooth passage of the regulations through the national legal process.

Photo: C. Muron, SPC



Results and impact

The first regulations dedicated to coastal fisheries conservation and management in Kiribati under the Fisheries Act 2010 were passed thanks to strong cooperation and the political will of the national fisheries agency (MFMRD). SPC provided support on legal issues, awareness raising, and monitoring, control and surveillance over a period of three years to assist the preparation and implementation of the new regulations.

Despite travel restrictions due to Covid-19, SPC was able to provide continued mentoring and online support for implementing the regulations, which are adapted to Kiribati's cultural environment and are mindful of gender equality and human rights.

"Success will ultimately depend on voluntary compliance of fishers and communities with the new regulations and management measures. In this effort, the role of fisheries officers cannot be overstated: they are the ones taking the journey from improved understanding of their laws to passion for educating their people and ability to balance enforcement with awareness raising on critical aspects of coastal fisheries management." — Tooreka Teemari, Director of Coastal Fisheries, MFMRD

Since the formal adoption of the regulations, SPC has supported MFMRD in training fisheries authorised officers to ensure they are able to apply control, inspection and enforcement procedures effectively. In 2020, 31 Kiribati fisheries officers (16 men and 15 women) benefited from online training and mentoring on monitoring, control and surveillance. During attachments at SPC headquarters, two fisheries officers also learned how to develop a communication strategy and information and resource materials to raise awareness of the new regulations.

With SPC support, MFMRD produced an information toolkit in both I-Kiribati and English on the sustainable use of marine resources to improve public support for the regulations and compliance. The toolkit includes posters and signboards targeting schools and communities, a handbook, and a series of roll-up banners, stickers and rulers for fisheries officers.

Lessons learned/Adaptation

The project team learned valuable lessons during the development and initial implementation of the new regulations, in particular, the importance of:

- technical training in legislative drafting to familiarise MFMRD staff with the new regulations and assist their understanding of the adoption process for any future regulations or amendments;

- training in monitoring, control and surveillance to ensure fisheries officers gained the skills needed to ensure compliance with the regulations (for instance, how to conduct an inspection, measure fish and collect evidence);

- communication campaigns to encourage positive behaviour (e.g. training local champions) and discredit poor behaviour (e.g. through a popular radio drama), thereby empowering a broad range of people to support sustainable coastal fisheries management.

Leaving no one behind

Staff from FFA, the Solomon Islands fishing industry and WWF, who took part in the training on GSI and HR, and monitoring, evaluation and learning in 2020.

Context

Gender and social inclusion, and human rights (GSI and HR) are often not well understood in the fisheries sector. As a result, opportunities are missed to design programmes that incorporate the diverse needs of the people and groups affected. Recent policies reinforce the importance of the human dimension of fisheries, including equitable sharing of benefits, inclusive decision-making, and consideration of the differing needs, levels of use, and access to natural resources and marine spaces for women and men, girls and boys, and marginalised groups. Putting these policies into action requires practical, tailored guidance, and tools that fisheries practitioners find easy to grasp and apply.

Change process

Through the PEUMP programme, SPC contributes to strengthening GSI and HR in fisheries programmes by means of mainstreaming, capacity development, training and mentoring, focused studies, and development of practical tools. In a multi-partner approach, SPC divisions including FAME, HRSD and LRD are working with FFA, the International Union for Conservation of Nature (IUCN), University of the South Pacific (USP), Wildlife Conservation Society (WCS) and World Wide Fund for Nature (WWF), and other agencies.

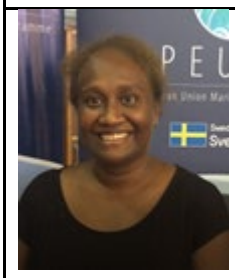
Results and impact

SPC delivered a series of training sessions and mentorship on GSI and HR in fisheries to 124 participants. They included 41 fisheries staff (31 women, 10 men) from nine PICTs (Cook Islands, Fiji, FSM, Kiribati, RMI, Samoa, Solomon Islands, Tonga and Vanuatu); 42 USP staff and students (30 women, 12 men); 24 FFA staff (13 women, 11 men); and 17 staff (9 women, 8 men) from small-medium aquaculture enterprises in six PICTs (Fiji, Kiribati, Palau, PNG, Solomon Islands and Tonga).

The training increased the participants' awareness and understanding, and their openness to continue working towards more equitable outcomes. In feedback on the training, the 41 fisheries staff from nine PICTs gave high ratings to their ability to incorporate their learning in their work (4.56 out of 5) and to their increased understanding of the GSI and HR-based approach to coastal fisheries and aquaculture (4.13 out of 5); 94% stated that the workshop challenged them to think critically and all agreed they will be able to incorporate what they have learned into their work. Similarly, 92% of USP participants rated their ability to incorporate their learning in their work as high or very high.

To ensure that the training was practical and relevant for fisheries stakeholders in the region, tailored material was developed to use in the training. The key resource developed for use in capacity development and as a reference is the *Pacific Handbook for gender equity and social inclusion in coastal fisheries and aquaculture*. First published in 2019, the handbook was well received by partners and national fisheries agencies as the first Pacific-specific guide on GSI to provide simple tools for use in a fisheries context. It is being used widely to support training and guide various GSI/HR-based activities. Three additional modules were added to the handbook in 2020 on field-related fisheries topics: community engagement, livelihoods and coastal management approaches. This work was informed by a wide range of stakeholders including FAME, HRSD and LRD staff.

Training activities also draw on focused studies on GSI and HR-based approaches, including gender and fisheries assessments and desktop reviews conducted to provide a strong evidence base, inform policy and strategically guide projects, with recognition of this work in an online article and blog.

	Delwyn Amoe, National Fisheries Development, Solomon Islands *"I thought that I knew about human rights and gender equality, but attending this training showed me that I still have a lot more to learn and I'm so excited about this. I am going to take back a lot of what I've learned from discussions and case studies."*
	Chelcia Gomese, Senior Research Analyst and Gender Focal Point for Coastal Fisheries, WorldFish, Solomon Islands *"I was very happy to be a part of the training as a gender person in the field of coastal fisheries. It's very important that we recognise the role of women in fisheries. The gender and human rights workshop enabled me to better understand roles and to make sure that gender is incorporated in all pathways of the work that we do."*
	Max Tukana, USP PEUMP Research Assistant, Fiji *"The training helped me apply the principles of gender and social inclusion to the fisheries sector … reminding me to listen to the needs and wants of the communities that we serve first and ensure that these needs are met."*

Lessons learned

Transforming social norms through GSI and HR-based approaches is a long process. This work incorporated lessons learned from past work, with the following factors contributing to the success of efforts to incorporate GSI and HR in Pacific fisheries:

- Working across divisional boundaries and engaging a diverse array of stakeholders
- Using illustrative case studies and tailored training that fisheries staff could easily relate to, and breaking down the often abstract concepts of GSI and HR-based approaches
- Inviting guest speakers with field experience, who embrace GSI and HR concepts in their work, to share stories
- Allowing open discussion and factoring in sufficient time for feedback, reflection and critical thinking
- Building closer relations with partners and investing in mentoring and capacity building

It is also helpful to remember that everyone involved in this work has the responsibility of being a role model and empowering others to be change agents in their communities.

Tuna tagging research voyage in a COVID-19 environment

Tuna tagging research voyage in a COVID-19 environment

Context

The western side of the Pacific Ocean is the home of over half of the global stocks of tropical tuna. The associated tuna fisheries are of crucial importance for many PICTs. For six of these countries, tuna fishing licence fees represent between 30% and 100% of all government revenue.

FAME's Oceanic Fisheries Programme (OFP) is in charge of providing scientific advice to support the management of this resource, with tuna tagging a key component of the programme's approach to monitoring the stocks. OFP has been collecting tagging data for over 40 years to improve the catch and effort information coming from the fishery. Maintaining the continuity of this long-recorded series of tuna monitoring is critical to providing scientists with up-to-date information on tuna fishing and mortality and their growth and movement. The data is analysed and integrated into fish-stock assessment statistical models to give regional fisheries managers an indication of the impact of the fisheries on tuna and to inform the nature of conservation measures.

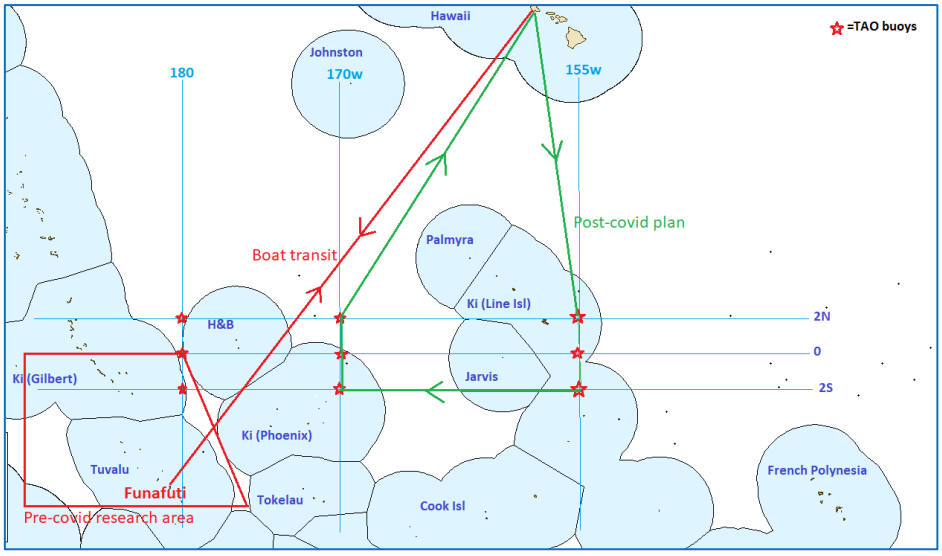
Change process

The tagging programme was even more important in 2020 because COVID-related international travel restrictions meant the placement of Pacific fisheries observers on industrial fishing vessels decreased by more than 50%.

OFP had originally planned a tagging cruise (CP14) in 2020 in the central Pacific area. These cruises, which have been carried out since 2008, involve targeting tuna schools associated with both oceanographic data collector moorings (TAO buoys) and the drifting fish aggregation devices (d-FADs) used by the tuna purse-seine industry.

When it became clear that travelling to other PICTs would not be possible, OFP modified its original plan, which included researchers boarding the vessel in Funafuti, to restrict stops to the research vessel's home port of Honolulu.

Given the significant reduction in independent data available for tuna stock management in 2020, this research cruise became a critical source of information for understanding the most recent impacts of fishing in the region.



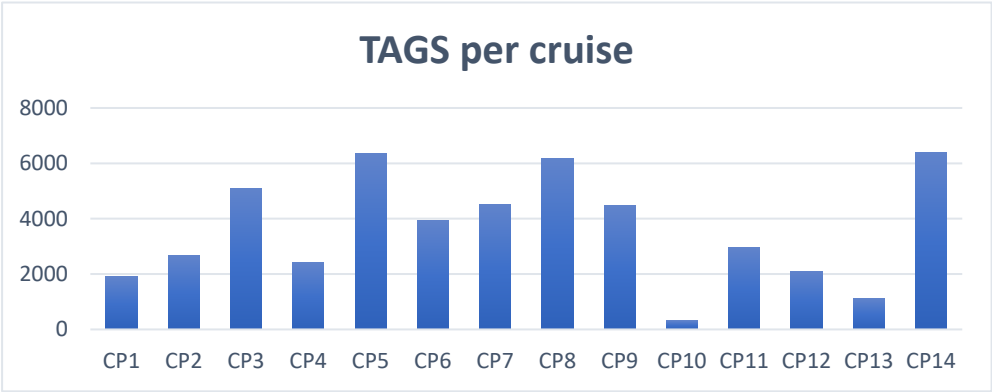
Transit of tuna tagging cruise in 2020 after the planned voyage was altered due to COVID-19-related travel restrictions.

Results and impact

To comply with COVID-19 travel restrictions, the vessel chartered by OFP to implement the research agreed to cover the large distances involved in the voyage with no extra port calls. In addition, several commercial purse-seine companies agreed to share their d-FAD access to improve the chances of the success of the research in the targeted area.

For two weeks before the departure from Hawai'i, two of the hired consultants stayed in mandatory quarantine, while the rest of the crew remained isolated as a precautionary measure.

The team completed a 49-day trip at sea and achieved one of the best results in the history of similar tagging cruises, with 6387 tuna tagged in 2020 compared to an average of 3400 over the past 10 years.



The CP14 research voyage was also able to test innovative sampling methods for collecting genetic material used to quantify the structure and behaviour of tuna populations.

Tuna tagged with an archival tag

Bigeye tuna ready to be released after genetic biopsy

Significant media coverage boosted attention to the research and its implications for the region both during and after the voyage, with fisheries managers from Cook Islands and school children from Kiribati participating in SPC's communication efforts.

Lessons learned

Recognising the difficult context, Kiribati supported SPC by facilitating research authorisation in its waters, including in the Phoenix Islands Protected Area, which has been closed to fishing since 2016.

The main reasons for the success of the CP14 research voyage were the motivation and skills of the people involved, and enhanced cooperation with the tuna fishing industry. Other factors included:

- collaboration with contracted fishers and fisheries technicians, two fishing industry partners, and a fishing technology company;
- the support of WCPFC member states, including funding from these states via the Commission;
- the contribution of numerous fisheries scientists around the region.

Testing new app with Fiji Fisheries Staff ©SPC

5 *FAME Performance Story 2020*

New web and mobile apps expand coastal fisheries data collection

New web and mobile apps expand coastal fisheries data collection

Context

Hundreds of different species of fish and invertebrates are found in Pacific coastal fisheries. They are fished for subsistence and local, domestic and international markets, and are essential to food security in the region. These resources need to be monitored, understood and carefully managed to ensure their sustainability in the face of increasing populations and a marine environment that is deteriorating due to human impacts and climate change. Yet coastal fisheries data, for invertebrate species in particular, is scarce and limited to specific locations and periods of time.

SPC has developed several desktop and in-country databases to support various market, creel[1] and socio-economic surveys. The resulting data is used by SPC scientists to provide advice for managing the fisheries. However, installing and maintaining these systems, and synchronising data between PICTs and SPC have not been easy due to limited bandwidth, especially in remote locations. In addition, there was a need to simplify some survey forms to focus on the minimum dataset required for management, and to enhance the quality of the data collected.

Change process

In 2019, the coastal fisheries team revisited the market and creel survey data collected to date, specifically the collection of fish sizes from catches at landing sites and markets, to assess data quality and identify gaps and opportunities for improvement. SPC and fisheries staff tested new survey methods in Fiji, Kiribati and New Caledonia, and also trialled the use of photographs to reduce the time needed in the field to record a fisher's catch and allow for quality control of species identification, length and weight data.

SPC developed a web interface and Android mobile application (Ikasavea) in tandem for data entry and analysis, trained 25 staff on data entry and provided tablets for use in the field.

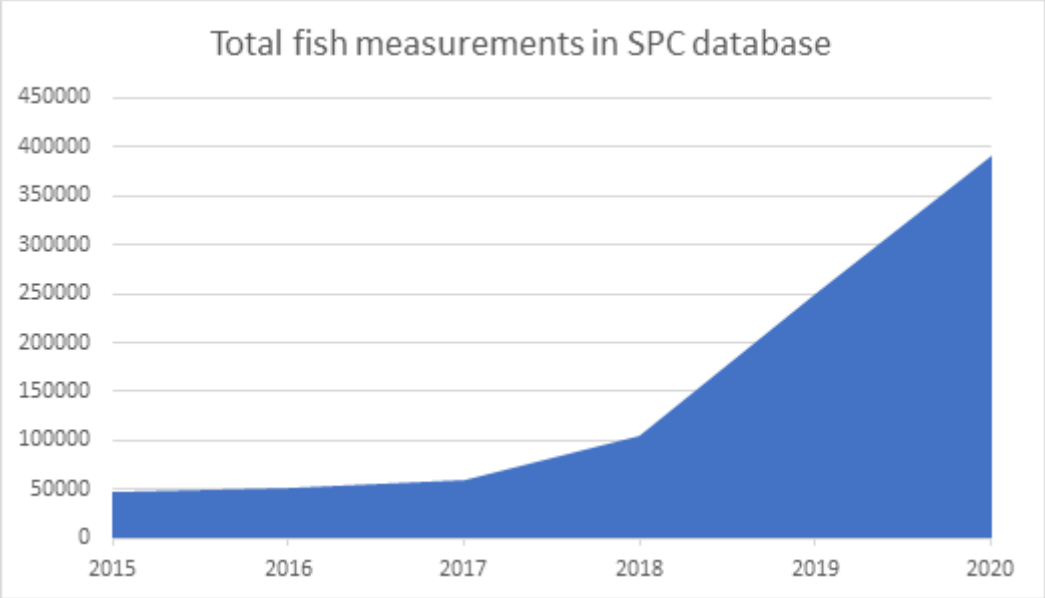
Results and impact

The first version of the Ikasavea app was released in 2020, replacing traditional paper forms and improving data quality and availability by providing hints on species identification and alerts for typos and outliers. The app also enabled improved data collection for invertebrate species.

Three PICTs (Fiji, Kiribati and New Caledonia) have already adopted the system for data entry. Twenty-five staff (11 women, 14 men) were trained in data entry and five tablets were distributed.

More than 391,158 fish measurements for around 400 species are now in the system, which is 10 times more than the data available previously through the legacy SPC creel surveys. This data will be used by SPC scientists to provide management advice for the main target species.

[1] Creel survey: Estimate of fishers' catches and effort, usually by a sampling programme involving interviews and measures of individual catches.



With over 16,600 pictures of 225 species collected, SPC was able to create an artificial intelligence system that simplifies identification by providing species prediction to users and makes data entry easier for non-specialists. There are also quality control checks to avoid data entry errors.

Feedback from users has been positive, and the team continues to receive requests for reports and tools for data analysis as well as for importing legacy data.

"The web application works very well and field testing in Labasa, Fiji, has produced excellent results." — Shivam Jalam (left), Fisheries Officer Data Analysis and Management, Inshore Fisheries Management Division, Fiji Ministry of Fisheries

Lessons learned

The following lessons emerged and were acted on during the development of the new tools:

- Based on feedback from users after the initial trials, the team made changes to the user interface of the tablet app to speed-up data entry, and expanded the web outputs to satisfy user needs.
- Keeping in contact with surveyors and data users ensured technical issues were resolved quickly and the system evolved to meet PICTs' new needs.
- Regular data synchronisation and accessibility for authorised surveyors, fisheries officers and scientists allowed for verification and continuous improvement of data quality.