



13th SPC Heads of Fisheries Meeting
1-4 June 2021 – Virtual meeting



Original: English

Information paper 5

Synthesis of COVID-19 impacts on fisheries and aquaculture in the Pacific

FAME Secretariat

Background

1. To better understand the impacts of COVID-19 restrictions on the fisheries and aquaculture sectors across all Pacific Island Countries and Territories (PICTs), in April 2020 SPC's Fisheries, Aquaculture and Marine Ecosystems (FAME) Division launched *Fish Tell*, an initiative coordinated by FAME's Monitoring, Evaluation and Learning (MEL) unit, aimed at collating and synthesizing relevant information emerging from both our informal networks as well as formal studies conducted at both national and regional levels to assist with programme adaptation in response to emerging needs and priorities of our members.
2. Concurrently, SPC's Strategic Performance and Learning (SPL) section commissioned an external study to synthesize information from grey literature and published studies on impacts of COVID-19 in the Pacific during 2020. In addition, several relevant studies were conducted by partner organizations, including:
 - a global assessment of COVID-19 impacts on fisheries and aquaculture from the perspective of Regional Fisheries Advisory Bodies (RFABs) by the Food and Agriculture Organization (FAO) of the United Nations
 - a set of studies on COVID-19 impacts on the economic benefits of tuna and on Monitoring Control and Surveillance (MCS) tools by the Forum Fisheries Agency (FFA)
 - a rapid assessment of adaptation measures across 199 coastal villages in seven PICTs¹ coordinated by the Locally Managed Marine Area (LMMA) Network with collaborators from 19 institutions, including SPC²
 - a report on socio-economic impact assessment of COVID-19 (still in draft) prepared by the CROP Taskforce
3. These resources are summarised in this information paper.

Summary of COVID-19 impacts reported

4. Data and evidence gathered through various studies and reviews on the impacts of COVID-19 restrictions highlight the following effects on fisheries and aquaculture in the Pacific:
 - aquaculture production has been negatively affected due to a shortage in inputs (feed, seed, equipment) disrupting production cycles
 - MCS of fishing activities, management of fish stocks and the fight against IUU fishing negatively affected by suspension of observer activities
 - fisheries research disrupted in the short and medium term
 - decline in levels and conditions of employment in capture fisheries and aquaculture
 - reduced local demand for fisheries products, in particular high-value products destined for the tourist market and reduced exports

¹ Federated States of Micronesia, Fiji, Palau, Papua New Guinea, Solomon Islands, Tonga, and Tuvalu

² This study draws on work partially presented in country reports available at: <https://lmmanetwork.org/resources/covid/>

5. In addition, the following lessons were identified:
 - local food production and food sharing were traditional practices that afforded resilience
 - bolstering local food practices and promoting the revival of traditional practices and values, such as cultural traditions of food preservation, is key for supporting food security and the survival of Pacific communities through shocks
 - considering gender and facilitating inclusive management enables the effects of interventions on fisheries to be better spread and more durable amid shocks
 - encouraging consideration of local conceptualizations of well-being, as indicators of economic prosperity and SDG indicators do not fully capture all dimensions of well-being important to Pacific peoples

Fisheries management and aquaculture production

6. A global survey of RFABs conducted by FAO in November 2020 showed that over 90% RFABs believed that COVID-19 was having or was likely to have negative consequences on the management of fisheries stocks and all RFABs agreed that it was having a negative impact on production and management of aquaculture.
7. Mobility restrictions have affected both the fisheries and aquaculture supply chains. Aquaculture production has been affected by significant supply chain issues (feed import and distribution, fingerling supply and distribution) due to international and domestic travel and transport restrictions and lockdowns. In addition, a shortage in supply of inputs such as seeds, feeds and finance/credit, disruptions in production cycles, reduction in demand for fish and reduced staff numbers have adversely affected the industry. The ancillary industry (ice, cold storage, transportation, packing material, crates, etc.) has also suffered, further impacting the supply and distribution of harvested fish and fish products.
8. In some countries, aquaculture operational budgets have been diverted toward addressing containment and humanitarian response issues.

Demand and price for fisheries products

9. Overall, evidence points to a decline in domestic demand and the price of fish due to the negative impacts of COVID-19 restrictions on the tourism industry and export markets across PICTs. The market for fish, in particular high-value commodities such as shrimp, pearls and ornamental products, has been severely impacted due to lack of export channels, flight closures and the decline in tourism.
10. With the closure of tourism businesses, there has been a loss of market for produce and seafood destined for restaurants, hotels and resorts. In addition, employment losses and relocations away from urban areas has meant that people can no longer afford to purchase fish, therefore resorting to subsistence and artisanal fishing.
11. The loss of tourist markets and a decline in income across the region, led to a drop in local demand and a subsequent reduction in prices for the some locally caught and produced fisheries products, in particular: shrimp, pearls, fish for the ornamental trade, mud crab,

lobsters, reef fish and some pelagic species. Reduced prices for some high value products, as well as limited access to market due to restrictions / lockdowns and closure of national borders for export products, has led to lower fishing effort for certain species and a decline in pearl aquaculture production. In FSM, reports of an increase in the price of pelagic fish resulted in more people buying reef fish, causing locals to go night spearfishing more often.

12. While demand for export fisheries products has remained high (and in some cases increased, such as the demand for tuna destined for canning and pouches), some countries such as Palau have stopped the export of reef fish, while in other countries exports of reef fish stopped indirectly through closure of international flights. The aquarium trade has been particularly affected by the loss of export channels.
13. At the same time, local demand for home grown cultivated and aquaculture products has increased across several countries. Small-scale tilapia farming has been identified as an immediate response strategy in some countries.

Capture fisheries monitoring control and surveillance (MCS)

14. Over 90% of RFABs also reported negative consequences on the MCS of fishing activities, management of fish stocks and the fight against IUU fishing (FAO 2020).
15. The obligation for 100% observer coverage of purse seine fishing operations and at-sea longline transshipments was initially suspended from April to May 2020 and that suspension was subsequently extended, currently until 15 August 2021. Furthermore, the obligation for purse seiners to only tranship in port was relaxed as some countries banned the entry of foreign vessels into their ports, rather designating at-sea areas under their jurisdiction for purse seine transshipments. However, observer monitoring of fishing vessels is continuing for some domestic fleets and in some countries purse seiners have recommenced transshipments in port.
16. The suspension of the observer program due to COVID-19 travel restrictions has reduced the amount of critical data used by SPC to advise on the status of the region's tuna stocks. For the purse seine fishery, SPC estimates a 50-60% decline in observer coverage in 2020, with some distant-water fleets having very low observer coverage. Reduced observer deployment and in-port transshipment have sparked concern about the lack of independent monitoring of both high seas transshipments and Exclusive Economic Zone (EEZ) transshipments, made monitoring compliance of vessels during the Fish Aggregating Device (FAD) closure period more difficult and resulted in reduced flow of observer and port sampling data for fisheries research.
17. COVID-19 restrictions are likely to constrain the development of new coastal MCS programs in some of the countries SPC has been working with and there is the risk that some trained fisheries officers or staff are seconded to other areas due to changing priorities. In some cases, coastal MCS has also been negatively impacted by government fisheries agencies inability to travel to undertake monitoring and enforcement due to government staff stand-downs.
18. Increasing subsistence and artisanal fishing pressure on coastal and nearshore areas has related challenges for MCS and enforcement (both legislated and customary management),

with the risk of increased poaching in no-take MPAs and customary waters. Having a strong MCS presence and capacity during this period will be critical to ensuring the coastal marine resources aren't over-exploited, beyond the level that they already are.

Fisheries research

19. The suspension of observer coverage has interrupted an important source of data for estimating purse seine catch species, size composition and bycatch for purse seine and longline fisheries. The collection of biological information from catches has also been affected.
20. Several scheduled scientific or science-support meetings were postponed or held by video conferencing. The WCPFC Scientific Committee meeting was held in August 2020 via video conferencing (along with all other WCPFC meetings in 2020, and the upcoming SC meeting in 2021) but needed to be shortened as managing the time zones of all WCPFC members proved challenging.
21. The tuna tagging cruise conducted in 2020 was re-designed in terms of area of operation because of difficulties in getting scientific personnel to the vessel. However, a very successful cruise was ultimately conducted with 6,387 tuna tagged in 2020 compared to an average of 3,400 over the past 10 years
22. The implementation of some scientific projects has been delayed due to the inability to on-board newly appointed staff and travel restrictions impacting the ability to implement some scientific activities, such as obtaining and sending tissue samples for expert analysis overseas.
23. Reductions in observer deployment and in-port transshipments has meant reduced observer and port sampling data for SPC's work on stock assessments and harvest strategies.
24. Fisheries research in the region has also been affected by reduced budget and reprioritization. For example, the Solomon Island Ministry of Fisheries and Marine Resources (MFMR) budgets for training, conferences, workshops and others were given up and reallocated back to the National Disaster Office. All Solomon Islands ministries were instructed to give up 50% of their 2020 budget for this.
25. SPC field work to undertake fish and invertebrate surveys and training, as well as follow-up data analysis and report writing training attachments, have been put on hold. SPC has adapted by identifying ways to provide remote / internet and video-conference-based training, analysis and report writing support.
26. Capacity building work has also been impacted, in particular, training courses on fisheries science / assessment that require face to face interaction had to be put on-hold for all of 2020 and the first half of 2021. The extension of travel restriction into 2021 has necessitated the development of remote training options, however the effectiveness of these virtual trainings in comparison to the face-to-face modalities is yet to be assessed.

Economies and livelihoods

27. The COVID-19 synthesis commissioned by SPL confirmed that a large majority of households across the Pacific have been affected by the economic impacts of COVID-19, with disruptions to trade, the collapse of tourism, job losses, and reduced economic activity reported across household types and sectors.
28. Household strategies employed in response to this included reducing consumption (both non-food and food spending), purchasing the cheapest but not necessarily the healthiest foods, spending from savings, reducing the number of children going to school, finding ways to earn extra money, taking on extra debt, selling harvests in advance, and receiving assistance from friends or family.

Employment

29. COVID-19 restrictions, business closures, loss of markets and reduction in consumer demand have resulted in loss of employment or reduction in work hours in both the formal and informal sectors (SPC 2021). There have been reports of loss of jobs in tourism, fishing, transport, naval maintenance, pearl farming and aquaculture from a number of countries in the Pacific region (FAO 2020). The International Labour Organization (ILO) Rapid Assessment of Fijian and Samoan workers reported half of Fijian workers and a quarter of Samoan workers lost their jobs, and many of those that haven't were on reduced hours. Job losses due to COVID-19 were also reported in PNG, the Solomon Islands and Vanuatu.
30. Employment levels across the capture fisheries value chain were reported to have decreased due to a number of factors such as restriction of movement, decreased demand for fish, decreased trade due to closed borders and disrupted air and sea transportation logistics and supply chain among others. Significant reduction in employment, harvesting and postharvest activities have been reported in several countries (FAO 2020).
31. Observers have also suffered from reduced work opportunities during the suspension of observer activities (FAO 2020).

Migration

32. Significant internal migration has been reported by Solomon Islands, from Honiara to rural areas, leading to increased pressure on marine and agricultural resources, and increases in prices of fresh fish and staple foods in some areas.
33. Studies conducted in Tonga, FSM, and PNG reported some migration and in Fiji approximately half of the 13 coastal communities surveyed observed people returning home, particularly in areas affected by tourism leading to increased pressure on coastal marine resources. At the same time, a rapid assessment of 199 coastal villages in seven PICTs found that contrary to expectations, fishing pressure had stayed the same or decreased (Ferguson, C. E et al. 2021).

Food systems

34. Disruptions to domestic supply chains due to restriction in movement, road closures and other logistical channels and limited access to markets for purchasing inputs and selling products have resulted in high level of food loss and reduced incomes for producers and traders (PIFON 2020). Member countries and territories who are dependent on imported foods have been particularly affected by disrupted supply chains and food shortages due to transport suspensions, movement restrictions and border closures (Sanderson et al. 2020).
35. Communities have responded to changes in food availability and accessibility by increasing local food production – through agriculture, fishing, or both.
36. In the Solomon Islands, with agricultural production requiring time to bear fruit and stores running out of stock, fishing was an immediate response to the lack of food or money. Reports from Solomon Islands, Tonga, Fiji and Tuvalu show increased fishing. At the same time, fishing was constrained by the limited availability of fuel for motorised fishing due to trade restrictions.
37. The evidence gathered from the SPC synthesis (SPC 2021) suggests that rural communities and others with access to land and sea resources may have managed to cope with the economic shocks in the early stages of the pandemic. However, the pressure on the coastal marine resources is expected to increase as more people return to their villages to wait out periods of isolation and use fish and shellfish to provide regular protein and as a source of income.

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