



Pacific
Community
Communauté
du Pacifique

Assessment of COVID-19 socio-economic impacts on Special Management Area households and small-scale fishers in Tonga

Jean-Baptiste Marre and Carolina Garcia Imhof



Sweden
Sverige



PEUMP

Pacific-European Union Marine Partnership Programme



Fisheries,
Aquaculture
and Marine
Ecosystems
Division

Assessment of COVID-19 socio-economic impacts on Special Management Area households and small-scale fishers in Tonga

Jean-Baptiste Marre¹ and Carolina Garcia Imhof²

¹ Economist, Coastal Fisheries and Aquaculture Programme, Pacific Community

² Social Scientist, Coastal Fisheries and Aquaculture Programme, Pacific Community



© Pacific Community (SPC) 2021

All rights for commercial/for profit reproduction or translation, in any form, reserved. SPC authorises the partial reproduction or translation of this material for scientific, educational or research purposes, provided that SPC and the source document are properly acknowledged. Permission to reproduce the document and/or translate in whole, in any form, whether for commercial/for profit or non-profit purposes, must be requested in writing. Original SPC artwork may not be altered or separately published without permission.

Original text: English

Pacific Community Cataloguing-in-publication data

Marre, Jean-Baptiste

Assessment of COVID-19 socio-economic impacts on Special Management Area households and small-scale fishers in Tonga / Jean-Baptiste Marre and Carolina Garcia Imhof

1. COVID-19 (Disease) — Economic aspects — Tonga.
2. COVID-19 (Disease) — Social aspects — Tonga.
3. Households — Economic aspects — Tonga.
4. Households — Social aspects — Tonga.
5. Small-scale fisheries — Economic aspects — Tonga.
6. Small-scale fisheries — Social aspects — Tonga.
7. Households — Economic conditions — Tonga.
8. Small-scale fisheries — Economic conditions — Tonga.

I. Marre, Jean-Baptiste II. García Imhof, Carolina III. Title IV. Pacific Community

338.99612

AACR2

ISBN: 978-982-00-1413-8

Cover picture: William Sokimi

Prepared for publication and printed at SPC's headquarters,
B.P. D5, 98848 Noumea Cedex, New Caledonia, 2021

www.spc.int

Table of contents

Acknowledgements.....	iv
Executive summary	1
1. Introduction	3
2. Review of existing information on COVID-19 impacts.....	2
3. COVID-19 assessment methodology	4
3.1. SMA household survey.....	4
3.2. Focus group discussions.....	4
4. Results.....	4
4.1. SMA household survey.....	4
4.2. Focus group discussions.....	8
5. Discussion	13
6. Conclusion	14
Bibliography.....	14
Annex 1: COVID-19 module and demographic section from the SMA questionnaire	15
Annex 2: Sampling design	16
Annex 3: Reported changes in fishing activity due to COVID-19 by SMAs	17
Annex 4: Guiding questions provided by SPC for the focus group discussions.....	18

Acknowledgements

The authors acknowledge the valuable contributions and reviews from the Ministry of Fisheries (MoF) in Tonga and from SPC colleagues, namely Supin Wongbusarakum (previous Coastal Fisheries social scientist, FAME), Natalie Makhoul (Gender and Human Rights Specialist, FAME), and Margaret Fox (Gender and Social Inclusion Adviser, HRSD). Within MoF, the objectives and methods of the present COVID-19 socio-economic assessment were extensively discussed with Mele To'a 'Atuekaho (Deputy CEO, Ministry of Fisheries). The focus group discussions were led by the Fisheries Management and Development Division (FMDD) from MoF. Dr Siolaá Malimali (Head of FMDD) facilitated all the discussions with support from Elaine Havealeta, Samuela Pohiva, Michael Po'ulivaati, Sisi Hafoka and Manatu Samani-Maile. The Special Management Areas (SMA) household surveys were designed and conducted with the support of Siolaá Malimali, Poasi Fale Ngaluafé (Deputy CEO, Ministry of Fisheries), Hulita Faanunu (Senior Fisheries Officer), Vetekina Pau'u, Seini Ika, Amanda Le'ota, Makeleta Malimali, Sosefina Vili, Sisilia Fonongaloa, Viliami Fatongiatau (Fisheries Officers). Franck Magron (Coastal Fisheries Information and Database Manager, FAME) from SPC and Lavinia Vaipuna (Head of ICT) from MoF provided support for the SMA household data processing, cleaning and exporting.

This assessment has been conducted under the Pacific–European Union Marine Partnership (PEUMP) Programme, funded by the European Union and the Government of Sweden. The contents of this publication do not necessarily reflect the views of the European Union or the Government of Sweden.

Executive summary

With support from the Pacific Community (SPC), the Ministry of Fisheries (MoF) in Tonga has conducted two independent assessments to better understand the socio-economic impacts of COVID-19 on small-scale fisheries in Tonga: a nation-wide survey with a dedicated COVID-19 module targeting more than 300 households in communities with Special Management Areas (SMA), and four focus group discussions with a total of around 40 small-scale commercial fishers across the different island groups.¹

The main findings from both assessments show the following socio-economic impacts:

- SMA households and small-scale fishers suffered numerous stresses from COVID-19: reduced local availability of fresh fish and seafood (which is the most prominent impact reported by SMA households), stress on physical and mental health, loss of socio-cultural activities and financial hardship among others.
- While most of the SMA households reported an unchanged level of fishing effort or catches compared to before COVID-19, most small-scale fishers reported reduced fishing efforts.
- Half of SMA households and almost all small-scale fishers reported making less income from fishing, due to numerous factors (e.g. higher fishing costs and less fishing in the case of small-scale fishers) but also an increase in home consumption.

Despite these impacts, the assessments' findings also illustrate a solid coping capacity from both SMA households and small-scale fishers.

- Almost all SMA households and small-scale fishers used multiple coping strategies to minimise COVID-19 socio-economic impacts (e.g. new livelihood activities like farming and handicrafts). For SMA households this was particularly successful as half of respondents felt that COVID-19 did not affect their households.
- Results highlighted the key role played by women in the use of coping mechanisms. This underscores the importance of targeting development support to ensure a compelling participation of women as part of a generalised resilience strategy for SMA communities (see recommendations below).
- COVID-19 caused a fifth of SMA households to start new fishing activities, focusing mostly on invertebrates including sea cucumber. Small-scale fishers also reported changing their fishing practices (e.g. no more night fishing) and marketing strategies.

Finally, the assessment's findings identified possible assistance and recovery options.

- The most preferred types of support selected by SMA households were provision of fishing tools, training, new livelihood development and fish aggregating devices (FADs).
- A summary of possible recovery options identified by small-scale fishers, classified into three groups, is provided in table 1. The grouping is subjective as it was done by the authors based on their own judgements, according to three criteria.

Table 1. Recovery options identified by small-scale fishers, classified into three groups by the authors, based on their own judgements using three criteria: potential environmental impacts, timeframe of benefits, and beneficiaries.

Recovery options	
Group 1: short- to medium-term benefits, negative environmental impacts, only targeting fishers	<ul style="list-style-type: none"> • Provision of fishing equipment and inputs (e.g. gear, ice, sea safety, buoys, boats, engine) • Subsidies to the cost of fuel or gear
Group 2: medium- to long-term benefits, possible environmental impacts, targeting fishers and others	<ul style="list-style-type: none"> • Tailored support (technical and financial) for women involved or interested in fishing or aquaculture • Building infrastructure to facilitate access to fishing grounds (e.g. canals) • Establishing a shipyard to build and repair fishing boats (e.g. Ha'apai) • Assistance to set up local fishers' associations • Deployment of FADs to target more pelagic fish • Microfinance scheme (e.g. concessional loan) for fishers • Financial and technical support to establish new aquaculture ventures • Training in sustainable fisheries management and techniques
Group 3: mostly long-term benefits, positive environmental impacts, targeting the community	<ul style="list-style-type: none"> • Awareness and tools to increase compliance • Tailored support to SMA management • Development of local marketplace (e.g. Hofoa, Ha'apai)

¹ Fishing being the primary source of income for 90% of them.

Based on all these findings, the following recommendations can be made:

- Prioritise COVID-19 response and recovery interventions that would allow longer term benefits, have minimum environmental impacts, and cover a wider section of the community (groups 2 and 3 – table 1). Such interventions should also demonstrate higher eligibility to donor funding.
- Despite households' and fishers' reported needs in fishing development activities (e.g. provision of equipment or FADs), COVID-19 response and recovery assistance from the government should include strengthened management actions, such as monitoring, control and surveillance of changes in fishing activities (in particular, reported new activities), tailored trainings for community-based management and increased awareness of regulations and sustainable fishing practices.
- Development support to facilitate household access to local seafood should be prioritised as a short-term response to improve food security and local economies. Examples include assistance to set up new local marketplaces and fisher associations that encourage both male and female fishers to join and actively participate.
- Targeted training and support to those who ventured into new livelihood opportunities should be provided to overcome hardship and ensure sustainability, making sure gender-specific barriers and needs are addressed.
- Promoting alternatives to new or additional fishing activities that put further pressure on marine resources that are already overharvested (e.g. sea cucumber) is key to strengthening resilience to future crises.
- Among the SMA household respondents, the higher percentage of women undertaking new activities, including fishing invertebrates, indicates a need for tailored livelihood development support with a women's economic and financial empowerment angle. For instance, gender sensitive access criteria should be included in microfinance schemes.
- The diversity of reported socio-economic impacts and coping mechanisms used by SMA households in the face of COVID-19 calls for a coordinated and integrated national response. Gender consideration and conditionalities should be included in any interventions to avoid inequitable outcomes.

1. Introduction

The Tonga Ministry of Fisheries (MoF) sought assistance from the Pacific Community (SPC) to conduct a socio-economic assessment of the impacts of the COVID-19 pandemic in the coastal fisheries sector. The main purpose of this assessment, as stated by MoF, is for the ministry to provide information to donors like the Asian Development Bank and the World Bank to help their decisions on future funding activities, such as COVID-19 recovery or response planning and developing financing facilities that are made available for the region. In addition, the findings from this assessment could be used to improve MoF's current management plans and strategies, such as the current COVID-19 Response Plan.

Following consultations with MoF, it was decided to conduct two separate assessments: one targeting households that benefit from subsistence and artisanal fishing through a national survey and one targeting registered commercial small-scale fishers through focus group discussions (FGD) to be run by MoF with guidance from SPC. Given that a national household survey looking at the socio-economic impacts of the SMAs was planned for the first quarter of 2021, it was collectively decided to take advantage of this opportunity and include a dedicated COVID-19 module in the questionnaire. The specific objectives of both assessments were: (1) to better understand the effects of COVID-19 on coastal small-scale fishers and SMA households; (2) to examine how they have coped and recovered from the effects of COVID-19; and (3) to identify the types of support that they would find helpful to cope with and recover from the effects of COVID-19, as well as future crises.

This report presents and discusses findings from both assessments. First, it provides a brief review of existing information on COVID-19 impacts, with a focus on the coastal fisheries sector. It then presents the methodologies and results for both the SMA household surveys and the FGDs. The main findings are discussed, and some recommendations for recovery assistance options are provided.

2. Review of existing information on COVID-19 impacts

Although there have been no active COVID-19 cases in Tonga, because the government swiftly closed borders when the pandemic first emerged, the COVID-19 crisis has already severely affected several sectors and poses important risks to the country's health security, stability and economic recovery.

Several organisations have documented the socio-economic impacts of COVID-19 in Pacific Island countries and territories (e.g. World Bank 2020),² including on food systems (e.g. ACIAR, 2020).³ A socio-economic impact assessment of COVID-19 is also being finalised by a dedicated Council of Regional Organisations of the Pacific (CROP) taskforce. SPC also engaged Allen and Clarke to undertake a synthesis of evidence on the impact of COVID-19 on the Pacific region during 2020 (Cook et al. 2021).⁴ SPC's Statistics for Development Division has also produced *Pre-COVID-19 baseline metrics* fact sheets, including for Tonga, and quarterly economic briefings on COVID-19 impacts.

The evidence consistently shows that people experienced significant socio-economic effects. According to these regional publications, the following overall impacts can be noted for Pacific Island countries and territories, including Tonga, with varying consequences depending on local contexts: reduction of international tourists and subsequent reduction in income, reduction in remittances, loss of employment in urban informal settlements and subsequent migration to rural areas, increased pressures on rural women, increased price of several goods, disruptions to the food supply and limited ability to market their produce due to lockdowns and loss of freight, limited supplies or equipment to boost production, and disruption to social and cultural life. These impacts are having multiplier effects on vulnerable groups, such as the urban poor or unemployed youth, and on communities that were affected by previous disasters, such as Tropical Cyclone Harold in April 2020 for Tonga.

These reported impacts are having some consequences in the fisheries sector, in particular on small-scale coastal fisheries and communities who rely on them. In 2020, the Locally Managed Marine Area (LMMA) Network and partners developed a survey tool to gain rapid insights into changes occurring in villages and their fisheries. This survey tool was used in Tonga, where staff from the Vava'u Environmental Protection Association (VEPA) conducted in-person interviews with ten key informants from the Vava'u Group. Some of the main findings included: no apparent net migration, food availability issues in some communities in the outer islands, increase of both fishing and farming activities, reported compliance with fisheries management rules, increase of tinned fish price and financial worries.⁵

To cope with some of the impacts of COVID-19 on fisheries in Tonga, including the significant disruption of seafood exports (e.g. no more exports for deepwater snapper or seaweed),⁶ MoF developed an emergency response plan with three objectives: (1) to ensure there is enough fish stored and available to the people of Tonga in preparation for an outbreak of COVID-19; (2) to enable the people of Tonga to access fish at an affordable price through government subsidisation; and (3) to enhance fish availability through fish farming (tilapia and milkfish) to ensure a continuous supply of seafood during an outbreak of COVID-19.

² <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/835131608739709618/pacific-island-countries-in-the-era-of-covid-19-macroeconomic-impacts-and-job-prospects>

³ <https://www.aciar.gov.au/publication/covid19/5-covid-19-and-food-systems-pacific-island-countries>

⁴ <https://bit.ly/3i5gzsm>

⁵ <https://lmmannetwork.org/wp-content/uploads/2021/08/Tonga-Coastal-Communities.pdf>

⁶ See also: <https://www.spc.int/updates/blog/2020/08/from-luxury-lotions-to-tasty-local-dishes-tongas-mozuku-seaweed-producer>

3. COVID-19 assessment methodology

3.1. SMA household survey

The questionnaire, including the COVID-19 module, was designed in full collaboration with MoF and other partners involved in the SMA socio-economic assessment, through multiple meetings, correspondence and reviews. The purpose of the dedicated module was to examine COVID-19-related effects on household fisheries and the assistance needed to strengthen coping capacity. The questionnaire also included a demographic section, which can be used for additional socio-economic analysis, including from a gender and social inclusion perspective. The COVID-19 module and the demographic section of the questionnaire are provided in annex 1.

Multiple meetings and correspondence with stakeholders involved in the SMA survey, including MoF, were conducted to design appropriate samples. A random stratified sampling was used. Details are provided in annex 2. Participating villages (regardless of the island/region where they are located) were randomly selected and then the stratified sample size of each village was calculated proportionate to the total sample size and based on the 95% confidence level and 5% confidence interval.

The questionnaire was uploaded on Survey Solutions. After an enumerator training and multiple testing, the survey was conducted by MoF in March 2021, using digital tablets. A total of 312 SMA households were surveyed. SPC then provided MoF with data pre-processing and exporting assistance, while MoF conducted data checking and cleaning. The analysis was conducted by SPC through Excel.

3.2. Focus group discussions

The purpose of the FGDs was to complement the data collected through the SMA household surveys, by gathering information directly from small-scale fishers in the different island groups. SPC provided MoF with guidance on how to conduct the FGDs (see annex 4), including indicative questions, suggestions to capture profiles of participants, and recommendations on how to facilitate, take notes and report on the discussions.

In March and April 2021, a team from the Fisheries Management and Development Division (FMDD) from MoF conducted FGDs in Ha'apai, Vava'u, 'Eua and Tongatapu. Around 10 participants per island group were selected by MoF based on several criteria: frequent fishing activity, knowledge of the topic (COVID-19 impacts and recovery), ability to convey information from fellow small-scale fishers, and ability to articulate. The facilitation was led by Dr Siolaá Malimali (Head of Division) on all island groups, with support from Elaine Havealeta, Samuela Pohiva, Michael Po'ulivaati, Sisi Hafoka and Manatu Samani-Maile.

The FMDD team recorded the discussions that were held in Tongan and produced four short reports in English. These are all available from the ministry upon request. The sections below provide an overall summary of findings from these different reports.

4. Results

4.1. SMA household survey

Socio-economic and fisheries profile of respondents

Out of the 312 interviews conducted, data were collected from 275 respondents, comprising 135 female and 140 male. Of these, 35 households did not complete the questionnaire because they did not know about the SMA programme, and 2 did not give their consent.

A total of 43 youths (23 female, 20 male) completed the survey, that is 16% of respondents. Youths are defined as adult respondents who are below 34 years old.⁷

Of those households who completed the survey, 29% of the respondents reported that their household income is not enough to cover their basic expenses, 54% said it is just enough, and 17% reported that it covers their basic expenses and allows them to have savings.

⁷ The Tonga national youth strategy defines youth as 15–34 years of age.

A total of 218 households (79%) reported being involved in fisheries (income, household use or both – only a minority of respondents declared fishing solely for income),⁸ and 120 respondents (44%) had been involved in fisheries activities at least once a month on average for the past five years. The main fishing activities for these 120 respondents (see figure 1) were reef fishing (64 male and 22 female respondents, including 10 youths), followed by gleaning for shellfish and invertebrates (46 male and 36 female respondents, including 13 youths) and pelagic fishing (25 male and 6 female, including 5 youths). When asked about their primary occupation, 46 respondents (44 male, 2 female) reported being a fisher and 55 being a farmer (52 male and 3 female).

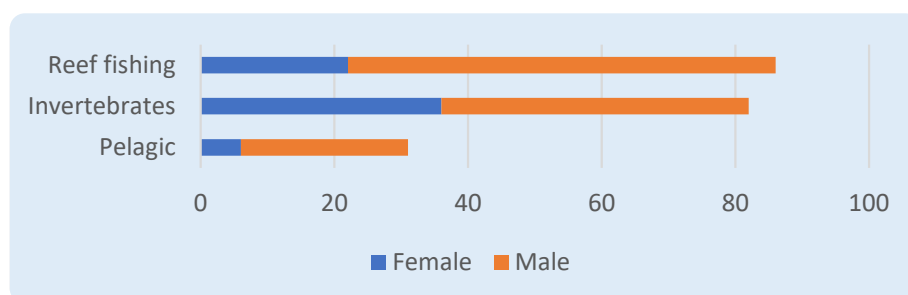


Figure 1. Respondents involved in fishing activities at least once a month for the past 5 years (n = 120).

More than 90% of respondents reported reef fish as being important or very important for their household's consumption and ate reef fish once a week or more (three times a week or more for 60% of respondents). Pelagic fish and fresh invertebrates were also reported as being eaten once a week or more by 60% and 70% of respondents respectively, and being important or very important for their household's consumption.

Types of impacts

Among the 275 respondents, 120 (44%) reported that COVID-19 affected their households while 155 (56%) reported no impacts. Of the 135 female and 140 male that answered the survey,⁹ respectively 49% and 39% reported an impact. Of the 43 youths who answered the questionnaire, 18 (42%) reported being affected. Unsurprisingly, the lower the income category the respondents belonged to, the more they reported being affected (respectively 46%, 44% and 39% of respondents with not enough, just enough or more than enough income to cover basic expenses of their households reported being affected).

When asked which stresses their family were feeling due to COVID-19 (see figure 2), most respondents mentioned reduced local fish and seafood availability, followed by stress on physical health and loss of socio-cultural activities (e.g. shorter time for customary events, prioritising support to close family members instead of relatives, inability to visit relatives, inability to attend religious services etc.). Only 3 of the 16 respondents who reported livelihood loss stated it was fisheries related. Reported stresses are globally similar between male and female respondents, except for stress on mental health and livelihood loss that were reported by more male than female respondents. Figure 3 presents the results on reported stress by youths, a notable difference being that financial stress comes in third position.

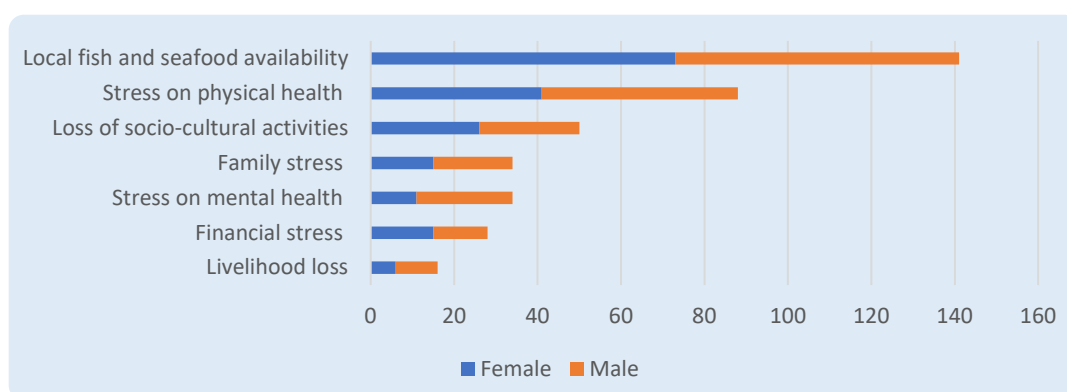


Figure 2. Stresses felt by family due to COVID-19 (n = 275).

⁸ These data on fishing activity and those presented in the following paragraph on seafood consumption are presented here to provide an indication of the importance of fishing for livelihood and food security. They were collected as part of the "food security and livelihood" section and the "fisheries resources" section of the questionnaire, which are not presented in annex 1 but can be made available upon request to the author.

⁹ For the purpose of this survey, it was agreed to use the following terminology:

- Male – any (biological) male irrespective of their age.
- Female – any (biological) female irrespective of their age.
- Women – any female above the children and youth age category i.e. female above 34 years old.
- Men – any male above the children and youth age category i.e. male above 34 years old.

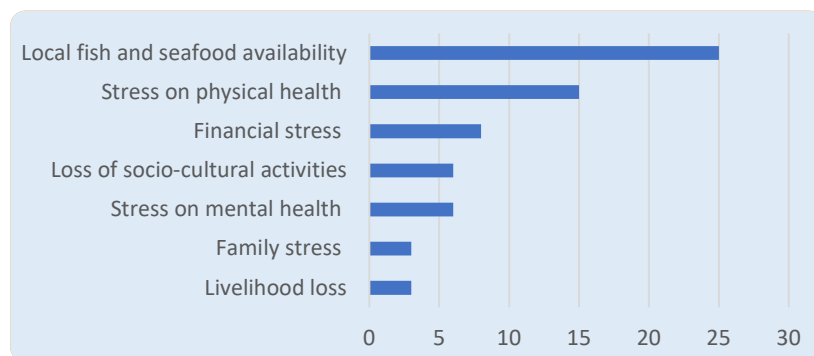


Figure 3. Stresses felt by family, according to youths, due to COVID-19 (n = 46).

The households surveyed were also asked if they were fishing the same amount of fish as before COVID-19. The majority (59%) answered they were fishing the same amount of fish (see figure 4 below), and only 16% reported less fish being caught. Slight differences can be observed between male (62% fishing the same amount, 14% fishing less, 12% fishing more) and female (56%, 17%, 11% respectively). For youths, 60% reported fishing the same amount, 19% fishing less and 14% fishing more.

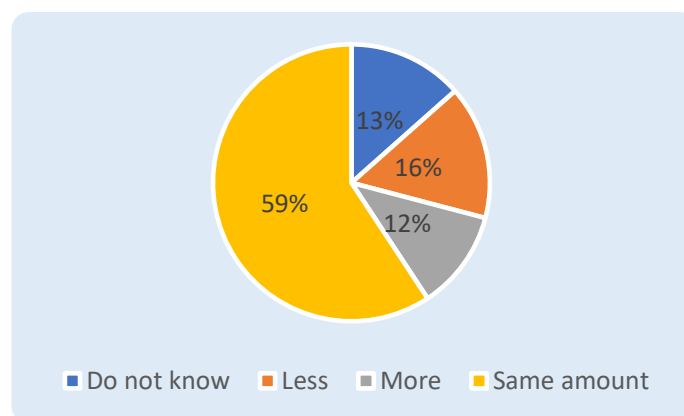


Figure 4. Amount of fish caught compared to before COVID-19 (n = 275).

Finally, the respondents were asked if they were making the same income from fishing as before COVID-19, which was the case for only 26% of them (figure 5). Again, results are similar when comparing males (54% making less income, 9% making more, 24% making the same amount), females (49%, 5%, 28%), and youths (51%, 7%, 33%).

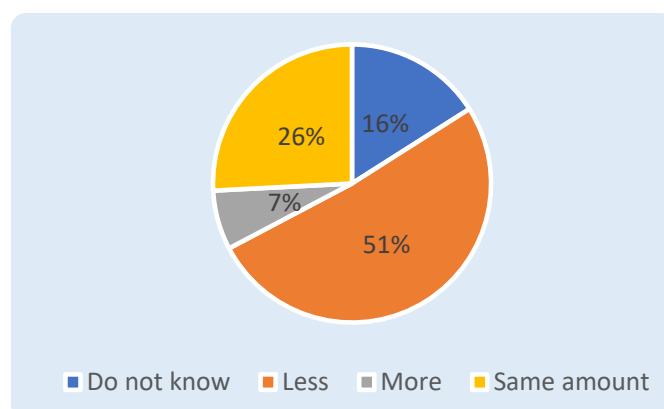


Figure 5. Income from fishing compared to before COVID-19 (n = 275).

Coping mechanisms

Households can use several strategies to cope with COVID-19. Results from the survey are shown below.

- 257 (95%) respondents indicated that they resorted to coping mechanisms or activities.
- 63 (23%) respondents (40 female and 23 male), of which 11 youths (that is 26% of young respondents), started a new work or job to earn income (see figure 6 for the type of activities reported by respondents). Again, differences can be observed across income categories, with the proportion of respondents who started a new job decreasing from 27% for respondents with not enough income to cover household basic expenses to 19% for respondents with more than enough income.
- 56 (21%) respondents (32 female and 24 male), of which 11 were youths, reported being engaged in a fishing or harvesting activity that they did not usually do (see figure 7), mainly harvesting sea cucumber (24 respondents, of which 4 were youths), other invertebrates (26 respondents, of which 4 were youths) or reef fishing (21 respondents, of which 5 were youths). Fishing pelagic or bottom fish, or using fish fences, were only identified as new coping activities by a few respondents (2 youths and 1 youth respectively).
- 30 (11%) respondents indicated that some household members had returned home to help out.
- 160 (59%) respondents (91 female and 69 male, including 23 youths) indicated asking relatives to send more money home.
- 153 (57%) respondents (84 female and 69 male, including 24 youths) indicated they started a small garden for growing edible plants. Similar proportions are observed for respondents with not enough or just enough income to cover basic household expenses (45 out of 79 low-income respondents), while the proportion goes down to 37.5% for respondents with more than enough income (18 out of 48 high-income respondents). Previous results regarding coping strategies to earn income (see figure 6) indicate that this activity is more for home consumption.

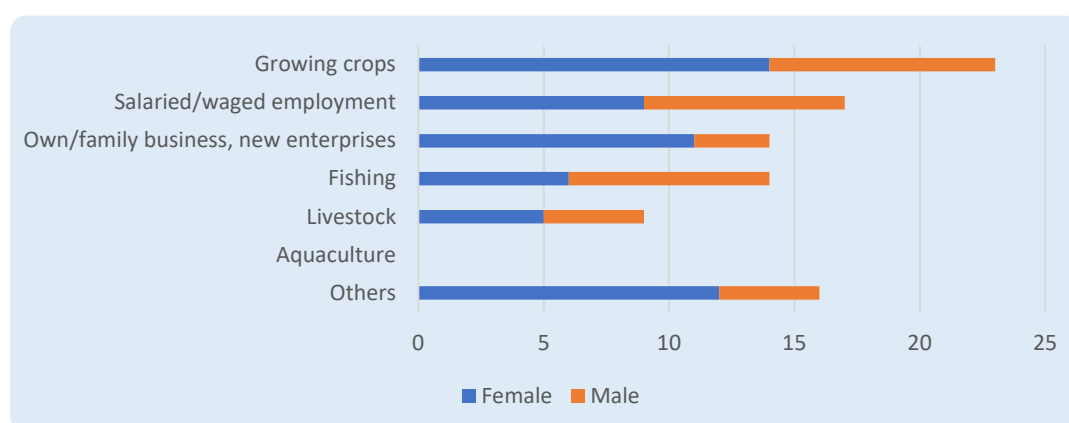


Figure 6. Type of new activities undertaken to earn income to cope with COVID-19 (n = 63).

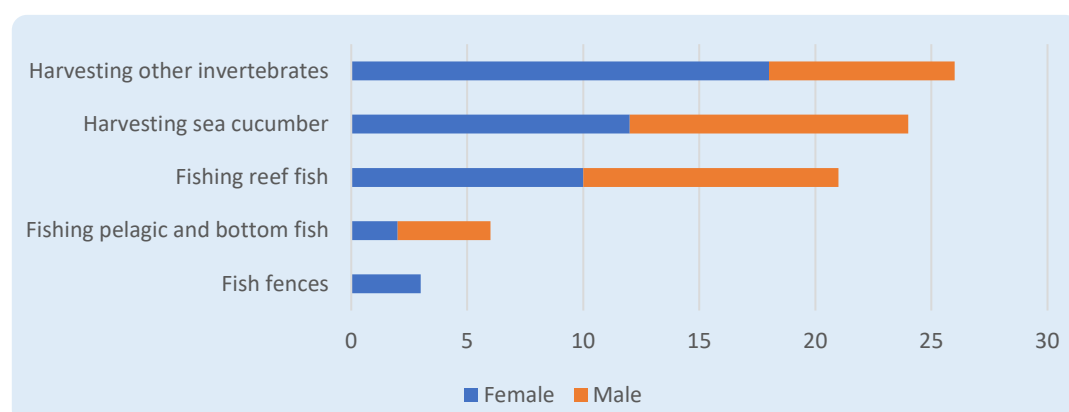


Figure 7. New fishing or harvesting activities started due to COVID-19 (n = 56).

Need for support

Finally, respondents were asked to select the two most important types of assistance they would like to get from the government right now to better cope with COVID-19 impacts on fisheries. Figure 8 presents the results of their answers.

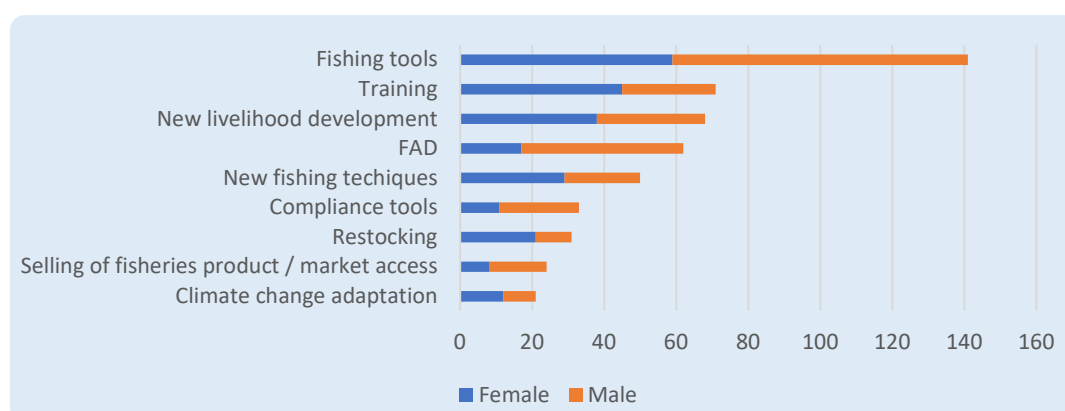


Figure 8. Top two most important types of assistance needed (n = 275).

The preferred types of support selected by respondents were provision of fishing tools (selected mostly by male respondents), training (selected mostly by female respondents),¹⁰ new livelihood development (slightly preferred by females) and fish aggregating devices (FADs, selected mostly by males).¹¹ The results are similar for respondents within the lower income category, and for young respondents with a higher preference for training than adult respondents.

4.2. Focus group discussion

Profile of participants

Table 2 summarises the profile of the 42 FGD participants for each island group. Most participants were small-scale commercial fishers with fishing being a primary source of income for almost 90% of them, selling mainly to the community (76% of respondents) and to island markets (40%). A bit less than half of the participants (45%) reported fishing also for home consumption. Fishing was a highly regular activity, as around 80% of participants reported fishing several times per week or daily.

Like many small-scale fishers in Tonga, the participants reported diverse and mixed fishing practices. Several habitats were targeted (69% of participants reported fishing in reef and lagoon followed by 26% in deep water and 21% with FADs); they used multiple techniques (line being used for 59% of participants, followed by freediving for 36%, net fishing for 21% and other techniques for 19%) to catch an important diversity of species: mostly reef fish (67% of participants), followed by tuna (33%), octopus (19%) and other (21%). More than half of the respondents reported owning a boat. No specific post-production activities were reported, except for the use of ice by more than half of the respondents.

¹⁰ The type or purpose of training was not specified in the questionnaire.

¹¹ The option respondents could select was simply "FADs", which in the context of Tonga include offshore and nearshore artisanal FADs.

Table 2 Profile of participants

	Tongatapu	Ha'apai		'Eua	Vava'u	Total
Number of participants	10 (only male)	7 male	4 female	10 (only male)	11 (only male)	42
Fishing as primary source of income	10	6	2	9	10	37
Fishing frequency						
Fish every day	6	3	0	1	2	12
Fish several times per week	3	4	2	7	6	22
Fish several times per month	1	0	0	2	2	5
Fish once a month	0	0	0	0	1	1
Fish a few times per year	0	0	2	0	0	2
Types of catch						
Reef fish	8	6	3	2	9	28
Small pelagic fish	1	0	0	0	2	3
Tuna	0	2	0	8	4	14
Sea cucumber	0	0	0	0	0	0
Octopus	1	1	1	0	6	8
Other (invertebrates, deep water)	3	0	0	0	6	9
Fishing location						
Reef and lagoon	9	5	4	2	9	29
Mangrove	2	0	0	0	0	2
Deep water	1	3	0	4	4	12
FAD	0	0	0	7	2	9
Fishing technique						
Line fishing	6	3	0	8 (trolling)	8	25
Free diving	4	3	1		7	15
Net fishing	5	2	0		2	9
Other methods (e.g. trolling, gleaning, diving)	0	4	3 (gleaning)	2	2	8
Own boat (majority fibreglass, some steel and timber)	10	2	0	7	6	25
Use of ice	10	0	0	9	11	30
Product destination						
Mostly for home consumption	1	7	4	1	6	19
Mostly for selling						
a. To community	10	7	2	9	4	32
b. To island market	1	0	0	9	7	17
c. To main city market	0	0	0	0	7	7

Key impacts of COVID-19

Reduced income

For all locations the most prevalent impact was the reduction in income. The interrelated factors (see figure 9) included higher input costs (fuel, gear and boat/engine repairs), lower demand for fish and other resources, reduced marketing opportunities, and reduced effort and/or catch (partly related to higher costs of fishing).

Higher input costs are driven in part by low availability (global supply chains affected by COVID-19, including the inability of family and friends to send remittances from overseas) or price increases. Before the pandemic, some fishers would travel overseas to buy better products or at a better price, but this has stopped due to the closure of national borders as part of national COVID-19 restrictions. Key shortages and increased prices include fuel, fishing gear and materials/spare parts to repair/maintain boats and engines.

Lower demand for fish and other marine resources is closely related to financial hardship of local communities and increased unemployment. The closure of the border stopped tourism, an important source of income for some communities, thereby increasing local financial hardship. Hotels and restaurants catering for tourists have reduced or cancelled their demand for fish, contributing to the overall lower demand for fish. Internal government measures, including limitations on social gatherings, like official or church events, has also negatively affected the usual demand for fish. Finally, the disruption of global supply chains and the unreliability of postal services also prevented families overseas from receiving fish from Tonga to sell at a better price overseas.

Driven by reduced inputs, higher costs and lower demand, many fishers have reduced their fishing efforts, limiting their activities in space (closer to shore) and time. In addition to an unfavourable return on investment ratio, the government established a curfew between midnight and 5 a.m., which hampered fishing practices based on best times to fish and ideal tides to go to sea.

A related impact on local income has been the global toll on employment rates, as many have families living overseas who used to send remittances. Many of these family members have now lost their jobs and have been unable to support their families in Tonga since then.

Other impacts

Shortage of food was only mentioned a few times during the FGDs. It is possible that fish was still enough to provide for the family, combined with raising crops or livestock (see coping mechanisms below). However, a few participants mentioned that due to financial hardship in the community and higher unemployment, marine resources were being overharvested and some were fishing illegally in SMAs. In some places, this has affected the availability of fish, pushing some to spend more time at sea, and thus affecting the quality of fish, particularly when fishers have no ice boxes to store their catch. Other issues mentioned by the participants included financial hardship that was taking a toll on education (due to inability to pay school fees) and mental health.

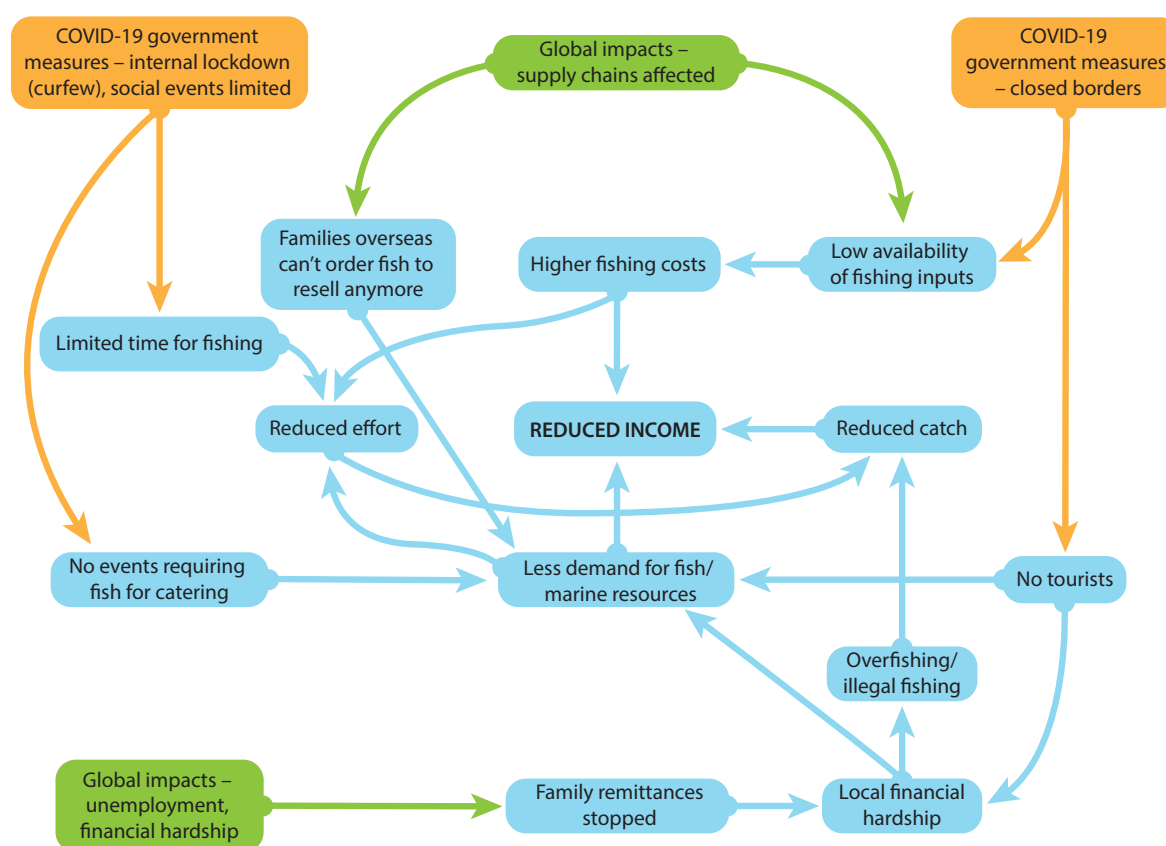


Figure 9. Interrelated factors behind the reduction in income of small-scale fishers due to COVID-19.

Coping mechanisms and external support

The most prevalent coping mechanisms were the establishment of new home gardens, new farmed areas for growing plants (e.g. root crops, pandanus, tutu plant, vanilla, kava) and raising livestock (e.g. pigs, chickens). Some of these activities helped reduce the household expenses, supply basic food for the family, and in some cases increase the household income. Handicrafts, weaving mats in particular, were also an important source of additional income for women in times of hardship (3 out of 4 women in Ha'apai reported weaving mats for sale, and 1 fisherman in Vava'u reported his wife joining a women's weaving group). Some participants also mentioned asking for loans or starting a new business or employment. A few had family members who were participating in the seasonal worker scheme or working overseas and sending money to support the family.

Fishing is still an important activity for the majority of participants, albeit time spent fishing or methods used might have changed during the pandemic. Others started alternative ways of marketing fish, like delivering fish directly to consumers or fishing by demand, rather than selling at the markets.

Support during the pandemic and future support options

The amount of support received during the pandemic seems to have varied across island groups: participants in Ha'apai reported no assistance, while in other island groups they reported assistance from various government institutions (e.g. Ministry of Tourism providing means to buy food, Ministry of Agriculture, Food and Forestry providing chicken). A support mechanism mentioned by several participants was the buying and reselling scheme set up by MoF in an effort to provide a source of protein for local households with reduced income: MoF bought fish caught from coastal areas (inshore fisheries) at a price of \$10/kg from fishers and dealers (registration and license not considered) and sold it to local people at a price of \$7/kg (as per MoF emergency response plan for COVID-19). In some cases though, fishers reported being affected negatively, when their catch was not bought by MoF and they had to compete in a market with reduced prices. This is one of the reasons why MoF ended this scheme in 2020 a couple of weeks after it started (another reason stated by MoF being fish quality issues). A few participants also mentioned support provided by associations or churches, and international aid (from Australia and the USA).

When asked about the types of support they needed to recover from the pandemic, many participants mentioned short-term support with limited benefits for the whole community, such as the government providing fuel, fishing gear, ice, boats or engines to individual fishers. Emergency gear was also considered important. Participants also suggested support at a broader level, like a loan system for fishers; assistance setting up an association; establishing a shipyard to build and repair their own boats; establishing a market place; deployment of FADs to target more pelagic fish; building canals to allow fishers to return during low tides and avoid compromising the quality of fish; training in new fishing methods and sustainable fisheries; support managing SMAs; support establishing new aquaculture ventures; and support for women interested in fishing or aquaculture.

Table 3 summarises the main recovery options identified by small-scale fishers during the FGDs, and presents a subjective assessment made by the authors of this report based on three criteria: potential environmental impacts, timeframe of benefits, and beneficiaries. The assessment allows the identification of three different groups of interventions.

Table 3. Recovery options identified by small-scale fishers and assessed by the authors based on their own judgements using three criteria: potential environmental impacts, timeframe of benefits, and beneficiaries

	Interventions	Environmental impacts	Timeframe of benefits	Beneficiaries	Groups*
Livelihood development support	Provision of fishing equipment and inputs (e.g. gear, ice, sea safety, buoys, boats, engines)	May generate overfishing	Medium term	Fishers	1
	Subsidies for the cost of fuel or gear	May generate overfishing	Short term	Fishers	1
	Building infrastructure to facilitate access to fishing grounds (e.g. canals)	Potential destruction of habitats	Medium to long term	Any community member using the infrastructure (e.g. transportation)	2
	Establishing a shipyard to build and repair fishing boats (e.g. Ha'apai)	Depends on operations	Medium to long term	Any community member with a boat Some new jobs provided	2
	Tailored support (technical and financial) for women involved or interested in fishing or aquaculture	Depends on specific projects	Medium to long term depending on support and projects	Women	2
	Assistance to set up local fisher associations or cooperatives	Depends on operations	Medium to long term	Fishers Some new jobs may be provided	2
	Deployment of FADs to target more pelagic fish	Minimal	Medium term	Fishers	2
	Development of local marketplace (e.g. Hofoa, Ha'apai)	Minimal	Medium to long term	Fishers, sellers, and consumers	3
	Microfinance scheme (e.g. concessional loan) for fishers	Depends on operations	Medium to long term	Fishers	2
	Financial and technical support to establish new aquaculture ventures	Depends on operations	Medium to long term	Interested community members	2
Management support	Awareness and tools to increase compliance	Positive	Long term	Whole community	3
	Training in sustainable fisheries management and techniques	Positive	Long term	Fishers	2
	Tailored support to SMA management	Positive	Long term	Whole SMA community	3

* Group 1: short- to medium-term benefits, negative environmental impacts, only targeting fishers

Group 2: medium to long term benefits, possible environmental impacts, targeting fishers and others

Group 3: mostly long-term benefits, positive environmental impacts, targeting the community

5. Discussion

Multiple stresses were felt by SMA households and small-scale fishers due to COVID-19, with the top one listed by the SMA survey respondents being the availability of local fish or seafood, and the most reported one by FGD participants being the loss of income. When further investigating COVID-19 impacts on SMA households' fishing activities, most of the respondents who indicated fishing the same amount also reported making less income than before COVID-19. There are several possible explanations:

- higher fishing costs, which is confirmed by results from the FGD;
- a decrease in local fish price, which seems unlikely unless caused by the subsidies scheme from MoF (fishers whose fish have not been bought would have to compete with the lower selling prices offered by MoF);
- lower proportions of fish being sold in favour of home consumption, which is in line with the reported decrease in availability of local seafood by SMA households and the disruption of local value chain and loss of marketing opportunities associated with in-country restrictions reported by small-scale fishers.

While there is no doubt that the COVID-19 pandemic had some negative socio-economic consequences for many SMA households, and in particular for those who reported a lack of income to cover basic needs, around half of the SMA survey respondents still felt that COVID-19 did not affect their household. Examining the results on coping mechanisms suggests that they found successful ways to mitigate and deal with the impacts.

Similar coping strategies were reported by SMA households and small-scale fishers. The dominant coping strategy used was farming. For SMA households, this was closely followed by requests for additional remittances from relatives. Handicrafts were also mentioned in the FGD by almost all the female small-scale fishers and could well be included in the "other coping strategies" category selected by many of the SMA survey respondents. A fifth of the SMA households and several small-scale fishers indicated starting new fishing activities as a coping strategy, mostly for invertebrates including sea cucumber, for both household use and income.

In SMA households, more females than males started new activities to source food (farming and fishing) and to earn income, which could suggest both a higher vulnerability (or higher awareness of their vulnerability, as more women than men felt that COVID-19 affected their household) and a stronger coping capacity. This could also be explained by gender roles that put additional pressure on women to ensure their family's well-being and food security.

Supporting the new livelihood initiatives, whether fisheries-related or not, and ensuring their sustainability through technical and financial literacy trainings, awareness materials, skills development, value adding, microfinance schemes and so on would represent a sound investment strategy as part of government and other institutions' efforts to respond to COVID-19 and build resilience. Particular attention should be paid to women's socio-economic empowerment, acknowledging that women have additional barriers to access finances – the main one being their lack of security assets due to the traditional structures of male landownership.

For fisheries-related livelihoods in particular, any recovery and assistance efforts to enhance the availability of local seafood would need to account for current changes in the local demand: while it seems that there is a relatively unchanged buying power and high seafood demand from many households that did not report being affected by COVID-19, the demand associated with the tourism sector (e.g. restaurants) as well as public and private events has largely collapsed. So, while current restrictions continue, such efforts could focus on facilitating direct access to local seafood for households by providing logistical options for fishers to offer fresh or processed seafood.

When asked about the types of assistance and support that they would like to receive from the government, a large number of SMA households and small-scale fishers listed interventions with expected development outcomes (e.g. access to fishing tools, new livelihood opportunities, FAD deployment), and a more limited number highlighted the needs for additional management interventions (e.g. enhancing compliance with fishing regulations and SMA management support). There was also a high expression of interest in training needs, in particular from female respondents. Although the type of training was not specified in the questionnaire, findings from the analysis and the FGDs suggest that such training needs are linked to livelihood development aspects (including fishing techniques or sea safety) and highlight the importance of differentiating between women's and men's needs.

Offering new or alternative livelihood opportunities, such as accessing pelagic fish from healthy stocks through nearshore FADs, could be considered a good recovery measure as long as it benefits the community and not only a few individuals; the situation also calls for additional management efforts. Indeed, even if a large majority of SMA households declared fishing the same amount or less than before, a fifth of households declared being engaged in new fishing activities, targeting stocks that are or may well be overfished, and a small but still significant proportion of respondents reported an increased fishing effort. One small-scale fisher from Vava'u also mentioned during the FGD an increased fishing pressure and overfishing. Examining the distribution of these SMA household respondents by SMA locations (see annex 3 as an example) could assist MoF to prioritise management interventions to ensure that such changes in fishing activities remain within the regulations of national fisheries and SMAs and do not compromise the performance of the existing community-based management systems. Interventions may include providing information and awareness materials on invertebrate and sea cucumber stock status and existing regulations, and capacity-building in monitoring, control or surveillance, both at national and SMA level.

While the focus of this assessment is on the coastal fisheries sector, the diversity of reported socio-economic impacts and coping mechanisms used by SMA households and small-scale fishers in the face of COVID-19 calls for a collaborative, coordinated and integrated national response. For instance, a significant number of respondents reported stresses on physical health, and to a lesser degree on mental health, highlighting the need to liaise with health authorities and other stakeholders in the health sector. The importance of farming activities as a coping mechanism also advocates for an integrated recovery approach focusing more broadly on food systems for livelihood and food security.

6. Conclusion

The main findings from this report are presented in the executive summary, which also includes a list of possible interventions and associated recommendations. This information can be used by MoF to advocate for and mobilise additional COVID-19 response and recovery financial support in the coastal fisheries sector. Should MoF be able to secure funds to assist households through coastal fisheries development and management activities, actions must be taken to avoid putting more pressure on already stressed stocks and leading to unequitable outcomes between men, women and youths or between income categories. Actions should take into account current fishing practices, and access to resources and coping mechanisms (for instance pelagic fishing is less often conducted by women and households in the lowest income category). To the extent possible, priority should be given to households with lower income, since they reported being more affected. A strategy to better tailor assistance to household needs and so avoid unequitable outcomes is to conduct consultations in targeted communities, ensuring wide and diverse participation from women, men, youths and marginalised groups, in order to refine interventions before deployment.

Bibliography

- Arahan R., Doan D., Dornan M. et al. 2020. Pacific Island countries in the era of COVID-19 : Macroeconomic impacts and job prospects. Washington, D.C.: World Bank Group.
- Cook S., Hooper C. and Shields E. 2021. Synthesis of COVID-19 impacts on the Pacific. Final report. Allen and Clarke. 60 pp.
- Davila F. and Wilkes B. 2020. COVID-19 and food systems in Pacific island countries. Chapter 5 in ACIAR Technical Report 96, COVID-19 and food systems in the Indo-Pacific - An assessment of vulnerabilities, impacts and opportunities for action.

Annex 1: COVID-19 module and demographic section from the SMA questionnaire

COVID-19 MODULE

1. Do you feel that COVID-19 impacted your household? 0 ☐ no 1 ☐ yes
2. Which stresses are your family feeling right now due to COVID-19? **[Check all that apply]**
1. ☐ Stress on physical health (e.g. headache, etc.)
 2. ☐ Stress on mental health (e.g. depression, worry, boredom, etc.)
 3. ☐ Local fish and seafood availability
 4. ☐ Financial stress (e.g. household expenses increase, no income, no buyers, fish prices are going down, no exports, payment freeze, etc.)
 5. ☐ Family stress (e.g. no schools for children, demanding wife/husband/children, etc.)
 6. ☐ Livelihood loss (lay-off, no job, decreased income, etc.)
If checked, is it fisheries-related? 0 ☐ no 1 ☐ yes
 7. ☐ Forgoing certain social activities, traditions, or cultural customs or obligations (e.g. shorter time for customary events, prioritising support to close family members instead of relatives, unable to visit relatives, unable to attend religious service etc.)
3. If your household fish, are you still fishing the same amount of fish as before COVID-19?
0 ☐ Same amount 1 ☐ less 2 ☐ More
4. Is your household still making the same income from fishing as before COVID-19?
0 ☐ Same amount 1 ☐ less 2 ☐ More
5. What has your household done to better cope economically with the impacts of COVID-19? **[Check all that apply]**
- ☐ Engaged in other type of job or work to earn income
[If yes, ask the work. Prompt whether there is also work abroad, check all that apply]
- ☐ Salaried/waged employment
- ☐ Own/family business, new enterprises (e.g. baking, sewing, handicraft etc.)
- ☐ Fishing
- ☐ Farming/growing crops
- ☐ Livestock
- ☐ Aquaculture
- ☐ Others, please specify _____
- ☐ Engaged in fishing or harvesting activity that your household don't usually do?
0 ☐ no 1 ☐ yes **[If yes, ask the type of catch/harvest]**
- ☐ Harvesting sea cucumber
- ☐ Harvesting other invertebrates
- ☐ Fishing reef fish
- ☐ Fishing pelagic and bottom fish
- ☐ Fish fence
- ☐ Household members returned home to help out? 0 ☐ no 1 ☐ yes
- ☐ Asked relatives to send more money home? 0 ☐ no 1 ☐ yes
- ☐ Started small garden for growing edible plants? 0 ☐ no 1 ☐ yes
- ☐ Nothing 0 ☐ no 1 ☐ yes
- ☐ Others? 0 ☐ no 1 ☐ yes
- [If yes, ask what it is]** Please specify _____
6. If you had to ask for any assistance or support from the government right now to cope with COVID-19 impact on fisheries, what would be the two most important types of assistance? **[Check 2]**
1. ☐ Fishing tools
 2. ☐ New fishing techniques
 3. ☐ FAD (fish aggregating device)
 4. ☐ Compliance tools
 5. ☐ New livelihood development
 6. ☐ Selling of fisheries product/access to markets
 7. ☐ Training
 8. ☐ Restocking of the reefs
 9. ☐ Climate change adaptation

DEMOGRAPHIC SECTION

1. What is your age? _____ years old.
2. Gender of the respondent [**Check without asking**] 1 ☐ Male 2 ☐ Female
3. What is your marital status? 1 ☐ Single 2 ☐ Married 3 ☐ Divorced 4 ☐ Widowed
4. How many people in your household are in the following age groups?
 1. Children under 18 _____
 2. Male adults (18 and older) _____
 3. Female adults (18 and older) _____
 4. Total household members = _____
5. What is your highest level of education?

0 <input type="checkbox"/> No formal education	3 <input type="checkbox"/> Community college
1 <input type="checkbox"/> Elementary school	4 <input type="checkbox"/> Some university, no degree
2 <input type="checkbox"/> High school	
6. What is your primary occupation?

1 <input type="checkbox"/> Government employee	5 <input type="checkbox"/> Farmer
2 <input type="checkbox"/> Private company/sector employee	6 <input type="checkbox"/> Fisher
3 <input type="checkbox"/> Business owner	7 <input type="checkbox"/> Other, specify: _____
4 <input type="checkbox"/> Retiree	
7. Which of the following situations best describe your household economic condition?
 - 1 ☐ Your household income is not enough to cover basic expenses of your household.
 - 2 ☐ Your household income is just enough to cover basic expenses of your household.
 - 3 ☐ Your household income covers basic expenses of your household and you have savings.
8. How long have your household lived in the community where you now reside? _____ years.

Annex 2: Sampling design

Multiple meetings and correspondence took place to design appropriate samples for the survey. A stratified sampling was used for the SMAs based on their SMA tenure length (SMAs of 1–4, 5–9 and 10–15 years). Participating SMA villages (regardless of which island/region they are located) were randomly selected and then the stratified sample size of each village was calculated as a proportion of the total sample size and based on the 95% confidence level and 5% confidence interval. Final adjustments of the sample sizes were made to increase the total number of SMA households in the oldest group, as it was considered the group with the most observable effects by the SMA status.

Island	Village	SMA tenure length (years)	Number of household samples
Tongatapu	'Atata	10–14	6
Tongatapu	'Eueiki	10–14	3
Tongatapu	Kolonga	5–9	55
Tongatapu	Lapaha	5–9	73
Tongatapu	Nukuleka	5–9	12
Tongatapu	Ha'atafu	1–4	9
'Eua	Houma	1–4	16
Ha'apai	'O'ua	10–14	12
Ha'apai	Felemea	10–14	13
Ha'apai	Ha'afeva	10–14	20
Ha'apai	Kotu	5–9	10
Ha'apai	Nomuka	5–9	16
Ha'apai	'Uiha	1–4	15
Ha'apai	Lofanga	1–4	11
Vava'u	Ovaka	10–14	6
Vava'u	'Utungake	1–4	16
Vava'u	Hunga	1–4	11
Vava'u	Ofu	1–4	8
TOTAL			312

Annex 3: Reported changes in fishing activity due to COVID-19 by SMAs

SMAs	Fishing the same amount of fish?				Engaged in new fishing activities?			Total
	Do not know	Less	More	Same amount	Do not know	No	Yes	
'Atata (old SMA)			2	4		5	1	6
'Eueiki (old SMA)		1		2		2	1	3
'Oua (old SMA)		1	1	10		7	5	12
'Utiha (young SMA)	3	4		8		11	4	15
'Utungake (young SMA)		4	2	10		9	7	16
Felemea (old SMA)	1	2	1	9		10	3	13
Ha'a'feva (old SMA)	3	2	1	14		18	2	20
Ha'atafu (young SMA)		1	2	6		4	5	9
Houma (young SMA)	1	3	3	9	1	11	4	16
Hunga (young SMA)			3	8		8	3	11
Kolonga (middle SMA)	6	10	5	31		46	6	52
Kotu (middle SMA)	2			8		7	3	10
Lapaha (middle SMA)	18	7	1	14	4	36		40
Lofanga (young SMA)	1	4	2	4	1	9	1	11
Nomuka (middle SMA)				15		11	4	15
Nukuleka (middle SMA)	2	2	4	4		8	4	12
Ofu (young SMA)		1	2	5		6	2	8
Ovaka (old SMA)		1	3	2		5	1	6
Total	37	43	32	163	6	213	56	275

Annex 4: Guiding questions provided by SPC for the focus group discussions

Targeted participants

Between 8 and 12 regularly engaged coastal fishers who are knowledgeable on the topic and articulate.

Objectives

1. To better understand the effects of COVID-19 on coastal fishers and fisheries.
2. To understand how coastal fishers have coped and recovered from the effects of COVID-19.
3. To examine types of support the coastal fishers would find helpful in coping with and recovering from the effects of COVID-19, in particular the support that MoF and the Tonga government can offer.

Format

- Group discussion with one skilled facilitator and one skilled notetaker
- All summary notes are captured and visible for the participants to review and agree on at the end of each part of the discussion
- Total maximum time of the focus group is 2 hours and 30 mins.

Participant profiles

Data on participant profiles to be collected prior to the group discussion:

- a. What types of fishing activities and fisheries-related activities does each person do?
 - i. types of catch
 - ii. purpose
 - iii. methods/gears/technology used
 - iv. boat ownership and type
 - v. post production
 - vi. marketing/selling.
- b. For how long?
- c. Location.

Indicative table for participant profiles is provided below. It can either to be sent out to the fishers by email for them to complete individually or can be completed collectively just before the start of the group discussion.

Profiles are to be used by the facilitator during the discussion to identify and target important areas of discussion.

Indicative table for participant profiles

Participant Name	Fishing as a primary source of income (YES/NO)	Frequency of fishing 1. Every day 2. Several times a week 3. Several times a month 4. Once a month 5. A few times a year	Main types of catch 1. Reef fish 2. Small pelagic fish 3. Tuna 4. Sea cucumber 5. Octopus 6. Other invertebrates	Main fishing locations 1. Reef and lagoon 2. Mangrove 3. Deepwater 4. FAD	Technique of fishing 1. Line fishing 2. Free diving 3. Net fishing 4. Other	Boat ownership (YES/NO and what type)	Post-production activity (YES/NO and what type)	Marketing/selling 1. Mostly for home consumption 2. Mostly for selling a. To community b. To island market c. To main city market

Guide for focus group discussion: Topic and maximum time

1 Introduction 🕒 10 mins

- a. focus group objectives
- b. what is in it for them?

2 Brief participants introduction (name and where they are from) 🕒 5 min

3 Summary on participants profile by the facilitator 🕒 5 min

4 Experience or observable changes from COVID-19 with their fisheries-related activities 🕒 30 mins

- a. What are the types of experiences (what)? Focus on economic (e.g. income, household consumption) and social (conflicts among fishers, family, stress?). Prompt to understand the following in detail:
 - i. cause (why?),
 - ii. nature (how and how serious?),
 - iii. when?
 - iv. Details of the effects/impacts on oneself, among coastal fisheries, their families, and wider community.

Note-taker shares summary. Facilitator gets agreement on the accuracy of the notes 🕒 10 mins

5 Coping mechanisms for effects of COVID-19 🕒 30 mins

- a. What have the fishers done individually and/or as a group?
- b. What kind of support/assistance have they received and from whom?
- c. How helpful or effective are the (a) and (b) in helping to cope and recover from the effects of COVID-19?

Note-taker shares summary. Facilitator gets agreement on the accuracy of the notes 🕒 10 mins

6 Required support for coping, recovering and preparing 🕒 30 mins

- a. What types of support and assistance were needed but missing that could have been important to help the individual fishers and coastal fisheries to better cope with and recover from effects of COVID-19? Prompt to understand the following:
 - i. Support needed and possible recovery measures from the ministry in the short term (coming weeks and months)
 - ii. Support needed and possible response from the ministry in the medium term (second half of 2021 onward)
- b. What needs to be developed that will help coastal fishers and coastal fisheries to better sustain and cope with similar impactful events in the future, whether from pandemic, natural disaster or serious climate impacts?

Note-taker shares summary. Facilitator gets agreement on the accuracy of the notes 🕒 10 min.

7 Wrap up and thank you 🕒 5 min

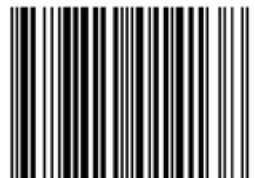


Pacific
Community
Communauté
du Pacifique

BP D5 • 98848 NOUMEA CEDEX
NEW CALEDONIA

Telephone: +687 26 20 00
Facsimile: +687 26 38 18
Email: cfpinfo@spc.int

ISBN 978-982-00-1413-8



9 789820 014138