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# The Covid-19 Pandemic and Livelihood Vulnerability of Small-Scale Fisheries Communities in Sabah, Malaysia

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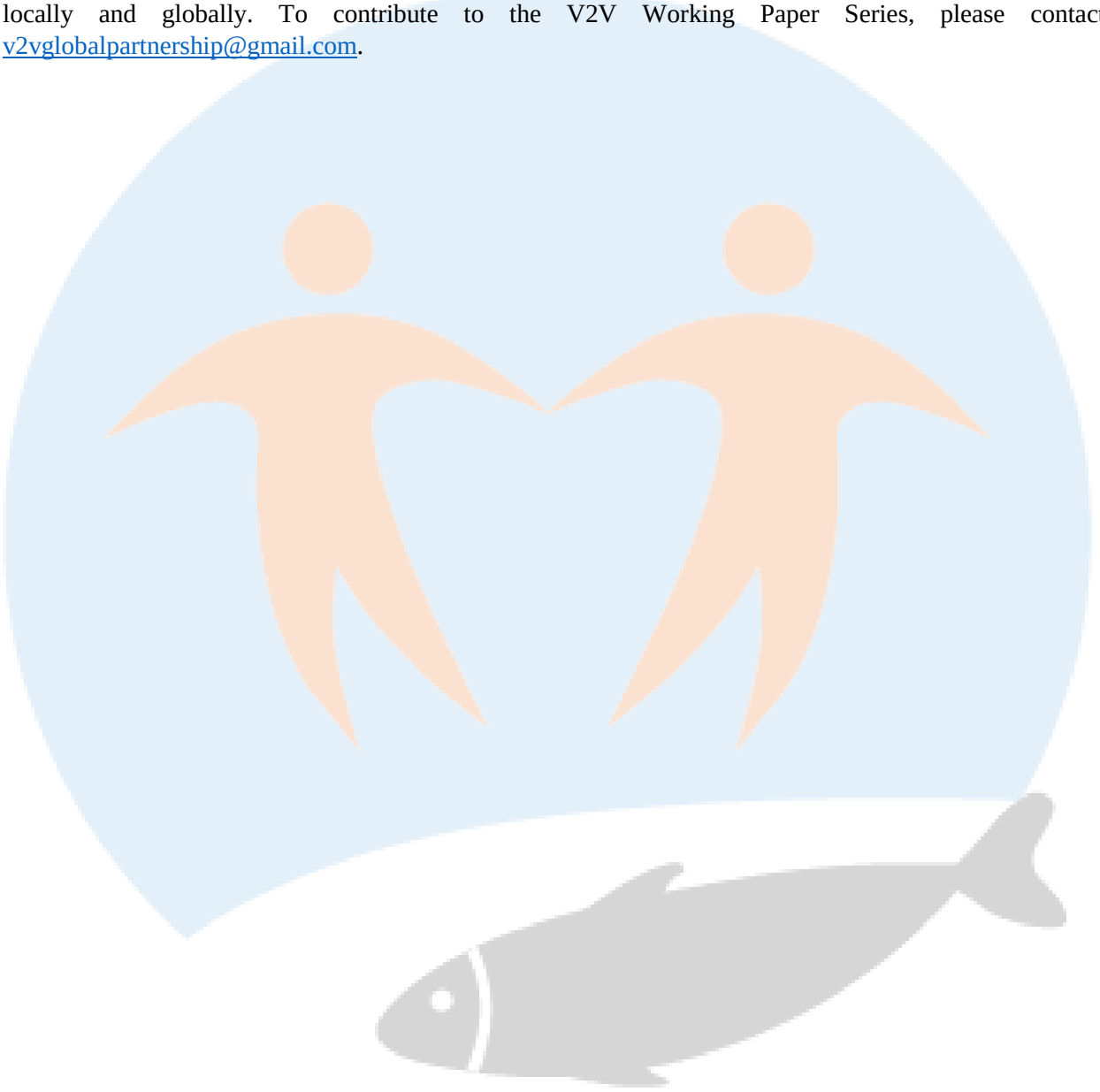

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# The Covid-19 Pandemic and Livelihood Vulnerability of Small-Scale Fisheries Communities in Sabah, Malaysia

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## Abstract

The state of Sabah in Eastern Malaysia has the largest coastal area in the country and it is known for its rich coral reef ecosystem. Sabah is one of the poorer states in Malaysia, and its fishers are among its poorest population. Several studies indicate that the livelihoods of poor fisher households are vulnerable to social, ecological, and governance factors. Illegal and destructive fishing activities, lack of enforcement of fisheries regulation, poor infrastructure, and inequitable access to livelihood assets, are all factors that harm small-scale fisheries. The outbreak of the COVID-19 virus started in Malaysia in March 2020. The government imposed the Movement Control Order (MCO) to curb against the pandemic in Malaysia by limiting movement across the country. The fish and tourism sectors were severely disrupted by the MCO. A study was initiated with the objective to explore the impacts of COVID-19 on the livelihoods of small-scale fisher households during the MCO. Data were obtained from 30 selected artisanal fishers from the Semporna and Kudat districts in Sabah. A semi-structured questionnaire was used for the study by way of an online google survey. Interviews were carried out through telephone and the conversations were recorded for detailed information. The result of the study indicated that fishers' income had dropped significantly due to low fish price, limited access to the market and lack of employment opportunities. Also, the demand for fish was limited as the hotels and tourism activities were closed. Following the study, the recommendations for policies that facilitate adaptive responses to reduce vulnerability and enhance viability are made.

**Keywords** COVID-19 ● Small-scale fisheries ● Vulnerability ● Coastal communities ● Marine protected area ● Kudat ● Semporna ● Sabah

## 1. Introduction

The Coronavirus outbreak began in Wuhan, China, in December 2019. This strain of coronavirus (CoV) was subsequently named the "COVID-19 virus." The virus caused illnesses ranging from the common cold to more severe diseases, loss of lives and assets. The rapid increase in cases outside China led the World Health Organization (WHO) to announce that the outbreak could be characterized as a pandemic in March 2020. COVID-19 has been reported in almost all countries. The virus has resulted in more than 165 million infections and death tolls reached more than 3.4 million as of April 2021. The current trend of the COVID-19 could potentially disrupt the food supply chains and hit hardest on the poorest and most vulnerable segments of the population (FAO, 2020). This is due to the fact that the populations whose income depends on food supply will naturally take the hardest hits from a reduced food supply.

The experiences of previous pandemics indicated that mandatory lockdowns negatively affect daily economic activities (Hanashima & Tomobe, 2012; Arndt & Lewis, 2001) as well as the agricultural and fisheries activities. The poor fishers do not have savings to support their livelihoods during the crisis. People who rely on natural resources for livelihoods subsequently suffered from hunger and malnutrition for lack of income (*Coronavirus*, 2020; Sar et al., 2010). Developing countries who are usually more exposed to food insecurity were even more vulnerable to the lowered food supply (Food and Agriculture Organisation, 2020).

Fishing households faced crisis and shocks due to less supply of food and increase the cost of living (Fan, 2020). With households depending on additional sources of income; the functioning of labour, credit and insurance markets; and the extent of public assistance (Hoddinott & Quisumbing, 2010), can play a role as an adaptive response to reduce vulnerability.

Evidence suggests that fishers are prone to poverty as their livelihoods are affected by lack of income opportunity, lack of savings and assets. Communities that are highly dependent on natural resources usually have a low level of livelihood assets i.e., lack of income opportunities, lack of savings, loss of crops, houses, and lack of other basic livelihood support systems (Grootaert et al., 1997; Jalan & Ravaillon & Jalan, 1998; Yaqub, 2000; Morduch, 1994; Moser, 1998; Christiaensen & Subbarao, 2004). Fishers are often found to live in the areas that were mostly isolated geographically, socio-economically and politically (Pauly, 1997). Therefore, poverty levels of small-scale fishers remain high (Béné, et al., 2003). Fishers caught fish under extreme levels of uncertainty induced by seasonality, natural hazards (weather, natural disasters); market fluctuations; and social uncertainty (insecurity associated with control over resources such as land tenure and state interventions) (Mendola, 2007).

In Malaysia, COVID-19 was first detected in late January 2020. By March, Malaysia became the worst infected nation in Southeast Asia (World Health Organization [WHO], 2020a, 2020b). The government imposed the Movement Control Order (MCO) from March 18 to March 31. The MCO was then extended from April 1 to April 28 (*Perutusan Khas Perdana Menteri*, 2020). The country adopted preventive measures: strict lockdowns, work from home, online business, wearing masks, social distancing, and travel restrictions. Lockdowns were implemented widely to minimise the transmission of the virus. COVID-19 was a critical issue compared to the previous crises such as natural calamities and pandemics faced by the people of Malaysia. Unlike previous epidemics and crisis events, the disruption caused by the COVID-19 virus was unpredictable. Undoubtedly, the COVID-19 virus caused a health crisis worldwide. It is anticipated that food insecurity will follow but experts are still unsure how to reduce it (Anwar et al., 2020).

Strict lockdowns had been challenging for people, especially for rural populations whose livelihoods depend on markets. Fishers' income was severely affected during the MCO (Cinderella, 2020; *Nelayan Kuala Selangor terjejas teruk ekoran Covid-19*, 2020). In early 2020, only a small number of studies highlighted the impact of COVID-19 on Malaysian fisheries. This paper provides further understanding of

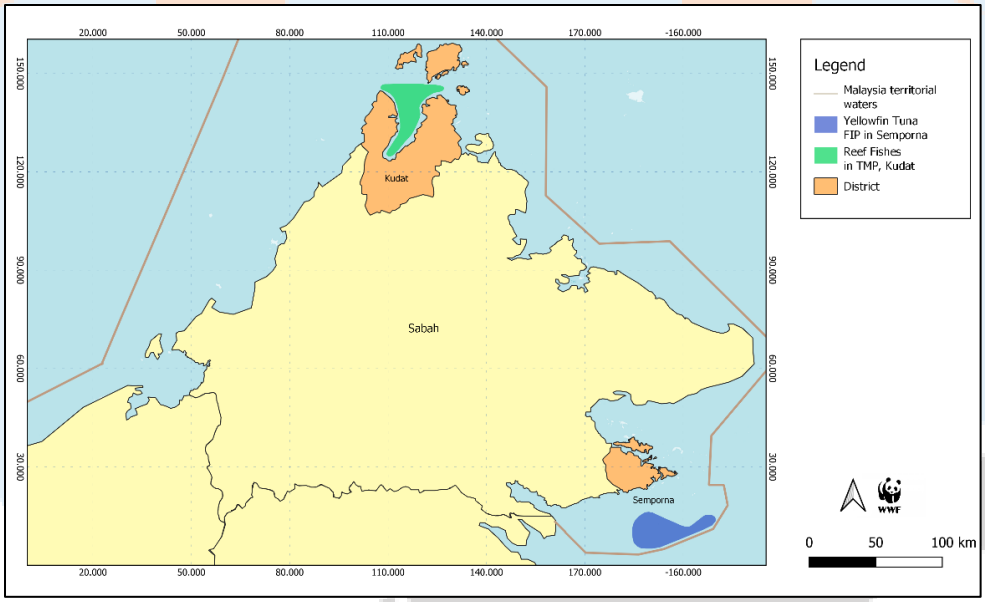
the impacts of COVID-19 that have affected small-scale fishers' livelihoods and the disruptions caused in the lives of vulnerable fisher communities in Malaysia. The paper presents new empirical findings which would be useful to both researchers and policymakers. The paper is based on case studies from two-poverty prone districts in Sabah, Malaysia.

## 2. Study area

Fisher communities are known as the poorest people in Sabah (Hasan et al, 2015). The importance of inshore fisheries to the coastal population is even greater considering that Sabah is one of the poorer states in Malaysia (Leete, 2008). Marginalisation caused by poverty is common for artisanal fisheries in the state (Pauly, 1997). Recent studies show that the average income of fishers is RM 700 (USD 175) to RM 800 (USD 200) a month, lower than the national minimum wage of RM 1,200 (USD 300) per month (Fadzil et al., 2019). Sill, the fishing industry is one of the main sources of income and protein for a large proportion of Sabah's rural coastal communities (Fisher, 2000; Teh et al., 2005; Foo et al., 2006). For this paper, the study is conducted in the Kudat and Semporna regions of Sabah, where WWF-Malaysia is implementing Fishery Improvement Projects (FIP) (Figure 1).

**Figure 1**

*WWF-Malaysia's project sites for FIP*




Semporna is a coastal district in the southeast coast of Sabah (Figure 2), located within the 768,000 hectares of Semporna Priority Conservation Area (PCA). In the east and south side of the district, there are more than 50 islands, several of which are occupied with mangroves, seagrass beds and an extensive coral reef ecosystem. There are also marine protected areas in Semporna PCA; Tun Sakaran Marine Park and Sipadan Island Park. Most of the coastal community practices fishing to earn income and secure their food. The development of the tourism industry in Sabah has attracted many young fishers to gradually shift from fishing to the tourism sector. The abundant marine resources support productive spawning and nursery grounds for fish. The coral reefs play a critical role in protecting the coastal communities from waves and shoreline erosion. Semporna is also within the migratory route of charismatic megafaunas, such as sea turtles, whale shark, killer whale, bottlenose dolphins, and mobula rays (WWF-Malaysia, 2020).

**Figure 2**

*Semporna PCA*

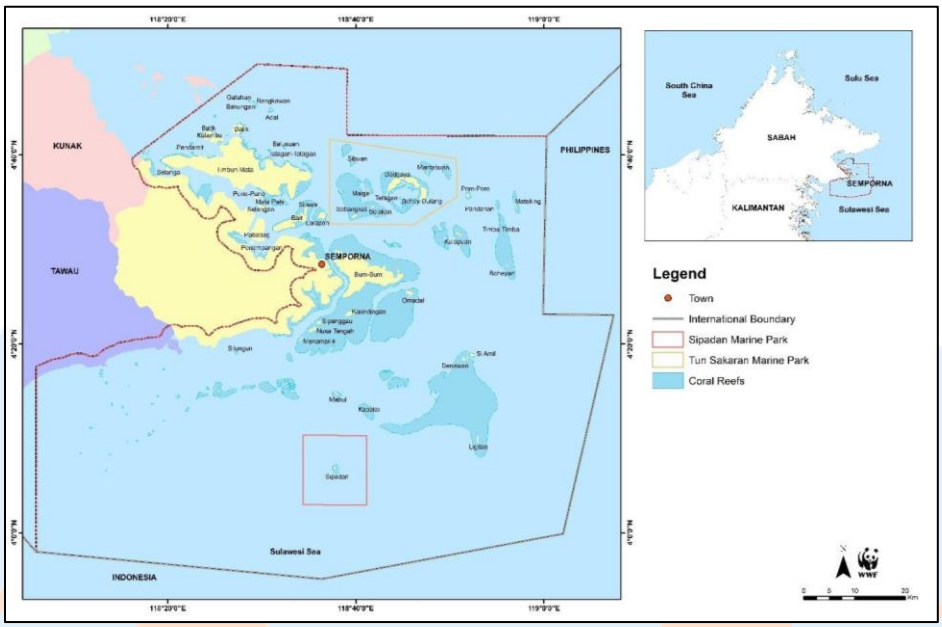
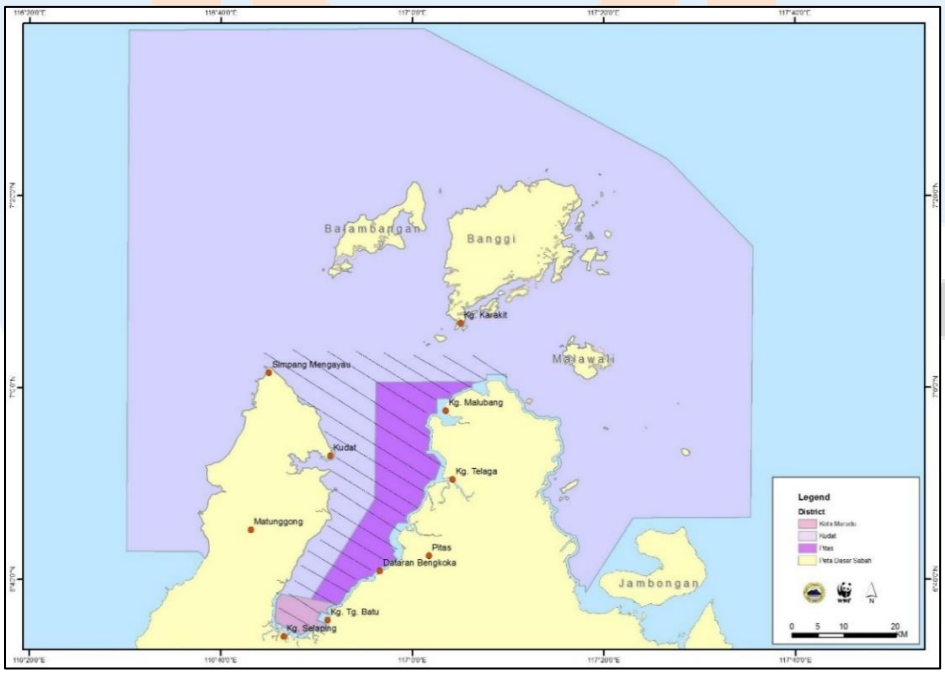



**Figure 3**

*Tun Mustapha Park of Sabah*




Kudat is located in the Northern Sabah (Figure 3). The coastal areas are within the largest multi-purpose marine park in Malaysia called Tun Mustapha Park (TMP). The 898,762 hectares of marine protected area

in TMP provides plentiful resources to the coastal community. TMP development enhanced the protection of coral reefs, mangroves, seagrasses, and became a highly productive fishing ground (Jomitol et al., 2020). Despite its rich natural habitat, the district is also considered one of the poorer areas in Sabah, where the incidence of poverty is estimated to be at 37.1% of the population (Sabah Development Corridor, 2009). Furthermore, the area is degraded due to logging activities hinterlands and poor coastal management, which include reclamation of wetlands and clear felling of mangroves for agricultural land.

Both districts are threatened by overfishing, including rampant destructive fishing practices such as fish bombing and cyanide fishing. The uses of destructive fishing practices are still common (Oakley et al., 1999; Pilcher and Cabanban, 2000; Teh et al., 2007). The continued arrival of migrants from the Philippines and Indonesia adds to the increasing pressure on fisheries resources, as demand for fish increases while crowding the territory (WWF-Malaysia, 2017). Thousands of immigrants in Sabah are engaged in fishing and tourism activities for their livelihoods. In addition, shark finning practices have been reported increasingly more, as well as increased bycatch of protected manta rays (Avila, 2018; Bernard, 2019).

## 3. Methodology of the study

Before the study began, WWF-Malaysia designed a questionnaire to assess the impacts of the COVID-19 pandemic on small-scale fishers. The questionnaire covers the socio-economic profile of its participants, as well as their perceptions on COVID-19 disruptions to their livelihoods, such as fishing operation, fish catch, fishing effort and income. As well, the study recorded fishers' vulnerabilities, caused by lack of access to food and groceries, low fish price, lack of alternative income, limited access to the market. Finally, it looked at coping strategies, spanning from digital marketing of fish to relief and support from government and private organisations.

The study uses a qualitative approach where data were from 30 small-scale fishers from Semporna and Kudat districts in Sabah were analysed. Respondents were selected from the contact details of small-scale fishers from WWF-Malaysia's FIP who had more than 10 years of fishing experience and who were willing to participate in the study. There were two approaches carried out during the study: for Kudat fishers, online good forms were used, while for Semporna fishers, telephone interviews were conducted. The mentioned approaches were adapted prior to the MCO implementation.

Secondary data were gathered, comprising of available government official data, journal articles, study reports, posts of relevant government agencies on official social media accounts, and news carried by major national dailies. Qualitative data were analysed through text analysis. After transcription, data were analysed, and main themes were developed.

## 4. Results and discussions

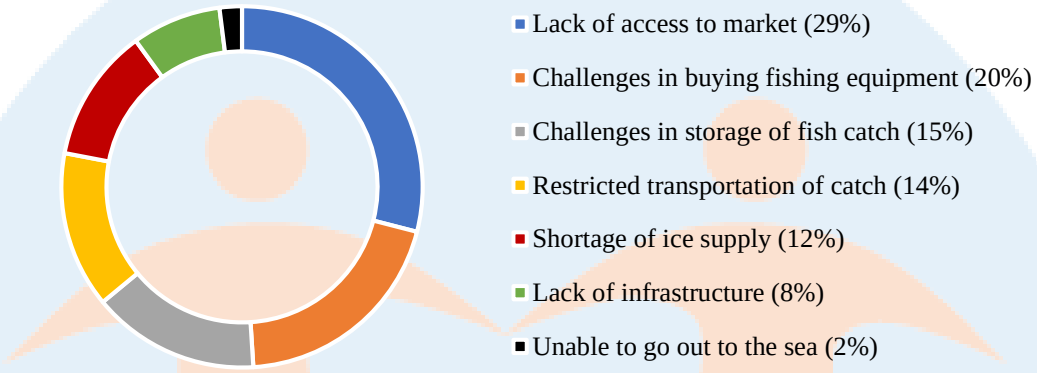
The respondents' age ranged from 25 to 65 with an average age of 43 years old. Fishers with a minimum of 10 years of fishing experience indicated that they have been fishing since they were 15 years old. All data were analysed to present the study according to these themes: COVID-19 disruption to livelihoods of fishers and Movement Control Order (MCO) affects fishing income during COVID-19.

## 4.1 COVID-19 disruption to livelihoods of fishers

Participants reported that COVID-19 disrupted the fishing operation in coastal fisheries. The obstacles faced were: difficulties in selling fish to the market; lack of available fishing equipment at nearby shops; absence of fish storage; limited transportation services to deliver catches to the market; low supply of ice (Figure 4).

**Figure 4**

*COVID-19 disruption in a context where fishing operations were hampered*




Fishers stressed that fishing activities significantly reduced (Table 1). The number of fishing days was less than a normal year. Fishers were unable to spend more time at sea due to the restriction on fishing operation hours. Other than that, the fish vendors were also unable to market their products out of the districts due to the restrictions of inter-district travel. This forced fishers to sell their catch at low prices to the locals in their districts.

**Table 1**

*Perceptions on COVID-19 disruption to livelihoods of small-scale fishers*

| COVID-19 disruption | Fishers' opinion |
|---|---|
| Fish catch (kg) declined | Significantly declined the catch (43%)<br>Slightly declined on catch (23%)<br>No decline (34%) |
| Fishing effort (number of days) reduced | Significantly reduced (67%)<br>Moderately reduced (30%)<br>Slightly reduced (3%) |
| Income from fishing reduced | Income declined significantly (>40%) (67%)<br>Income declined moderately (< 30%) (27%)<br>Income somewhat declined (< 10%) (6%) |

In addition, there was also no demand from tourists for seafood. According to the Malaysian Association of Hotels, the average occupancy rate of hotels in Malaysia dropped from 60% in 2019 to 33% in January to August 2020 (Ganesan, 2020). As a result, fishers experienced 40% of income reduction during the MCO implementation (WWF-Malaysia, 2020).

## 4.2 Movement Control Order (MCO) affects fishing income during COVID-19

Small-scale fishers were more heavily affected by the pandemic during the first and second phases of MCO (Jomitol et al., 2020). 70 % of fishers reported that their livelihoods deteriorated significantly during the first phase of MCO while the impact of the second phase of MCO was relatively less (Table 2).

**Table 2**

*Perceptions on COVID-19 disruption to vulnerabilities of small-scale fishers*

| Indicators of vulnerability | Participant's response |
|---|---|
| Income affected through MCO phases | Phase 1 (18 Mar - 31 Mar) (70%)<br>Phase 2 (1 Apr - 14 Apr 2020) (30%) |
| Experienced hardship to buy household necessities and groceries | Yes (86%); No (14%) |
| Shops in the island were available | Yes (52%), No (48%) |
| Felt comfortable to visit the mainland to buy necessities | Yes (41%); No (59%) |
| Fishing gears were available to buy in the island | Yes (38%); No (62%) |
| Had alternative sources of income | Yes (17%); No (83%) |
| Catches distribution | Neighbourhood customers (60%)<br>Local markets (30%)<br>Own consumption (10%) |

86% of fishers acknowledged that they could not afford to buy basic food and grocery items due to their income reduction. Fishers or other family members who lost their jobs during the pandemic were also unable to seek other employment opportunities. Since fishers relied solely on fisheries for income, they did not have other skills to carry out alternative livelihoods during the MCO implementation. As one participant reported: "*we would like to have an alternative livelihood to earn income, but I don't think it is a good idea to initiate or work on it this time. Tourism is not really operating well, and we do not know the demand and we do not have other skills to tap the market for other products (handicrafts).*" (Kudat fisher, pers. comm., 2020).

Although small shops were available in the island, the items sold were very limited. Fishers who resided in the island could not travel to the mainland to buy groceries due to the low number of transportations. At the same time, almost 60% of fishers admitted that they did not feel comfortable travelling to the mainland for fear of contracting the virus.

Regarding catch distribution, most of the fishers only sold their catch to coastal communities. This was due to the low selling prices offered by the vendors and markets in town. They also reported that the income from selling their catch in the mainland barely covered the cost of boat fuel. Fish price became 50% to 70% lower than normal during the MCO. Some middle persons were also found to stop operating during the MCO to minimize the risk of business loss due to the fish price fluctuations (Jomitol et al., 2020).

In this regard, one participant said: "*there were only a few middlemen in our area now. Our yellowfin tunas were sold with RM 2 (USD 0.48) per kg, which used to sell at RM 6 (USD 1.45) per kg. Since MCO started, the fish price had dropped, we had to catch at least twice the usual amount for us to compensate the loss of income to support our family.*" (Mabul island fisher, pers. comm., 2020). Some fishers were forced to employ fish bombing to compensate the loss of income. As one of them tells us: "*There were some fishers who conducted fish bombing due to the need of earning more income quickly. This is very frustrating since they are not from our island, but they are destroying the coral reef here*." (Semporna fisher, pers. comm., 2020).

### 4.3 Financial and non-financial support during Movement Control Order (MCO)

Government, non-governmental organisations (NGOs), welfare agencies, universities, and private sectors provided supports to coastal communities during the pandemic. Food was one of the most distributed forms of aid. The supplies were provided by the Social Welfare Department, which distributed aid across Malaysia in the form of basic groceries (amounted 10 USD to 25 USD) to accommodate per household needs. However, healthcare items such as facemasks and hand sanitizers were lacking. These items were expensive and most of the fishers were unable to afford them during the crisis. Another type of aid that was not distributed was fishing gear. Fishers were unable to replenish their fishing gears because fishing stores were not allowed to operate during the MCO implementation. With a lack of new supply, fishing became even more difficult.

The PRIHATIN Economic Stimulus Package (approximately 240 USD per household) was another governmental attempt to aid the coastal communities during the pandemic. However, boat fuel subsidies (0.13 USD discount per litre) helped easing the stress of the fishers during difficult times. The Department of Agriculture also offered special funds to fishers, directing 50,000 USD to fishers' associations around Malaysia to develop short-term agri-food projects that could produce three to six months worth of food (Idris, 2020).

Regarding the fishers' perceptions for the suggested coping strategies during the study, most of the fishers agreed that they could not use digital online platforms to sell catch (Table 3). This was due to their lack of knowledge on online marketing and the willingness to learn was very low.

**Table 3**

*Perceptions of fishers on coping strategies of Covid-19 crisis*

| Coping strategies | Fishers' responses |
|---|---|
| Turned to digital online platforms to sell fish | Yes (7%); No (93%) |
| Selling fishery products online could be a good strategy during MCO | Yes (30%); No (13%); Uncertain (57%) |
| Prolonged income reduction post-MCO (Fishers' opinion on continuous income reduction after the MCO is lifted) | Yes (30%); No (70%) |
| Fishers' recommendation | Conduct alternative livelihood (43%)<br>Sell the fishery products online (27%)<br>Continue business as usual (17%)<br>Diversify business with alternative products (13%) |

Alternative income-generating activities could sustain natural resources and improve human well-being if they truly transform livelihoods by connecting local users in new ways to economies and societies (Hanh & Bonstra, 2018). However, this was not an adaptive strategy that was sought after the participants. Fishers stated that they did not foresee their loss of income to continue after the MCO. They believed that the economic sectors would resume operations as usual. Should that not be the case, they reported to be willing to seek alternative livelihoods and to request supports on online marketing.

## 5. Conclusions and recommendations

Small-scale fishers in Sabah have long been one of the most economically vulnerable communities in Malaysia. The fishers were stressed by ecological and social impacts such as climate change, resources degradation, and conflicts over resources. The COVID-19 pandemic and MCO implementation in Malaysia

increased these existing stresses and vulnerabilities exacerbating the causes of the population's chronic poverty levels.

During the MCO, fishers' income dropped tremendously due to the low selling prices. Government interventions were highly needed to regulate prices to strengthen fishers' livelihoods and to secure food supplies. If fishers continue to lose income, fish bombing cases would probably hike for fishers to earn income in cheaper and quicker ways, although not sustainable for their future resources. The ongoing destructive fishing practices in Semporna and Kudat are very concerning. This also highlighted the need to continue the fish bombing monitoring through underwater blast detector installation in the districts. This effort would provide information such as blast frequency according to the date and time of occurrences. The information will be crucial for enforcement authorities to identify hotspots, so patrolling can be carried out more efficiently.

**Table 4**

*Perceptions of fishers on coping strategies of Covid-19 crisis*

| Coping strategies | Fishers' responses |
|---|---|
| Needed support | Financial support (52%)<br>Food and necessities (37%)<br>Fishing gear (11%) |

Fishers received aids during the MCO. 87 % of fishers reported that the supports should continue, specifically in terms of financial supports and food aid distribution (Table 4), as long as the MCO in place. Other than these supports, fishers in Sabah have hardly any savings to sustain their livelihood during the crisis. Social infrastructure and safety nets (such as Employees Provident Fund or social security funds) should be introduced and provided for fishers for better financial assistance in future crises.

Alternative livelihoods should be promoted to fishers or their family members as viable adaptive strategies. With the income earned from alternative livelihood, the coastal community would be able to adapt to changes by avoiding depending entirely on fisheries. Trainings for basic skills to acquire alternative livelihood, increasing products diversification, educating on online marketing and financial management should be brought to coastal communities. These could develop a resilient community that will be more equipped to respond to future crisis.

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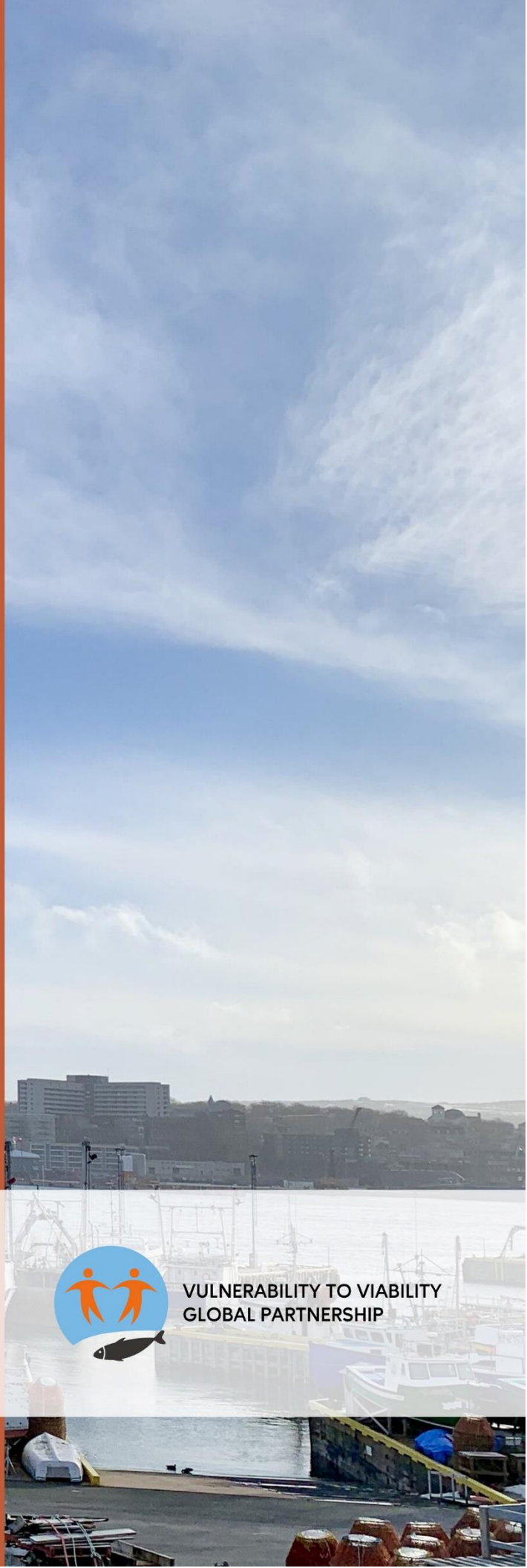
**Vulnerability to Viability (V2V) Global Partnership**

The Vulnerability to Viability (V2V) project is a transdisciplinary global partnership and knowledge network. Our aim is to support the transition of small-scale fisheries (SSF) from vulnerability to viability in Africa and Asia. Vulnerability is understood as a function of exposure, sensitivity and the capacity to respond to diverse drivers of change. We use the term viability not just in an its economic sense but also to include its social, political, and ecological dimensions.

The V2V partnership brings together approximately 150 people and 70 organizations across six countries in Asia (Bangladesh, India, Indonesia, Japan, Malaysia, Thailand), six countries in Africa (Ghana, Malawi, Nigeria, Senegal, South Africa, Tanzania), Canada and globally. This unique initiative is characterized by diverse cultural and disciplinary perspectives, extensive capacity building and graduate student training activities, and grounded case studies from two regions of the world to show how and when SSF communities can proactively respond to challenges and creatively engage in solutions that build their viability. Further information on the V2V Partnership is available here: www.v2vglobalpartnership.org.

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