



## Resilience Strategy of Fishermen in Sendang Biru Coastal Area, Indonesia During the Covid-19 Pandemic

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### ABSTRACT

In 2020, the International Labor Organization reported a global decline in the number of commercial fishing due to the Covid-19 pandemic that hit almost the entire population of the world in 2019. Large-scale social restrictions and lockdowns were imposed in several countries to prevent the spread of the virus. This policy then impacted human mobilization and affected the social-economic activities of several sectors, including fishery. Some fishers, particularly small-scale fishermen suffered from economic difficulties caused by the pandemic. Fishermen in Sendang Biru, Indonesia, were no exception. Using the mixed methods of quantitative and qualitative approaches, this study investigated the impact of Covid-19 on fishermen in Sendang Biru and how they overcome the crisis. The quantitative data were derived from 204 household surveys while the qualitative data were analyzed using the interview transcripts from semi-structured interviews with fisherman families. The study showed that although the pandemic has caused disruption in the health, the social and economic stability of the fisherman community in Sendang Biru, several resilience strategies were conducted by fishermen to help them endure the economic adversity during the pandemic.

### INTRODUCTION

The Covid-19 pandemic that happened in 2019 has impacted almost every industry in the world, including fishery. In 2020, the ILO reported a global decline of 9 percent in the number of active commercial fishing (**ILO Regional Office for Asia and the Pacific, 2022**). Employment in fishery sectors and global trade in seafood also fell during the first wave of the pandemic in 2020. Although according to ILO, the main reason for the declines appeared not to be driven by the pandemic-related health issues because

fishing activities were largely allowed to continue despite the outbreak. Fishers were usually exempted from strict quarantine measures. Most of them were only required to screen themselves before and after fishing as the countermeasure of the pandemic (**ILO Regional Office for Asia and the Pacific, 2022**).

However, in the Southeast Asia region, many countries reported a decrease in fishing activities during the pandemic. The lockdown policy that was implemented in many countries during the pandemic prohibited fishermen, particularly small-scale fishers from going out to sea to fish or selling their fish in the market (**Ferrer *et al.*, 2021**). Moreover, the low demand from local markets, restaurants, and hotels for seafood products had also reduced fishing production. As a result, a lot of small-scale fishers in Southeast Asia suffered from economic problems such as poverty because they were mostly depending on daily catch sales to support their families (**Ferrer *et al.*, 2021**).

In Indonesia, a large-scale social restriction was imposed in April 2020 during the first wave of the pandemic as an attempt to prevent the spreading of Covid-19 (**Olivia, Gibson, & Nasrudin, 2020**). Human and goods mobilisation was strictly controlled in several regions in Indonesia. However, the law did not fully limit people's mobility. It was only implemented for several social activities including school and work holidays, physical worship, and public gatherings (**Nasional Kompas, 2020**). In Mid-2021, the second wave of the pandemic spread with a massive rate. Additionally, in mid-July, Indonesia recorded the highest weekly spread in the world, with 350,273 new cases (**World Health Organization, 2021**).

Since then, several important steps have been taken to respond to coronavirus cases in Indonesia including the Formation of a Task Force for the Acceleration of COVID-19 on 13 March 2020, and Large-Scale Social Restrictions (PSBB) to Accelerate Eradication of COVID-19 on 30 March 2020. Moreover, the government has decided to implement a travel ban for foreign visitors to Indonesia including transit since 2 April 2020 through the Ministry of Law and Human Rights Number 11/2020 concerning temporary travel bans for foreigners entering Indonesian territory (**Djalante *et al.*, 2020b**).

Compared to other countries in Southeast Asia, the large-scale social restriction in Indonesia inclined more toward physical distancing rather than a lockdown. Although several social activities that might gather massive numbers of people were practically forbidden. Some activities were still permissible with certain health protocols. Nevertheless, it still affects human mobility such as transportation availability and business activities. In terms of the fishery, the pandemic has caused a range of problems in fishery production including harvesting issues, marketing, and even the livelihoods of Indonesian fishermen (**Wirdana *et al.*, 2021**). Many fishermen have reported several social-economic problems due to the pandemic. The lockdown policy hampered local fishermen as well as the capture fisheries industry to market their catches, which will also result in a decrease in the daily income of the community, especially local fishermen and fish farmers. The fisheries sector plays an important role in both developed and

developing countries. It directly or indirectly employs hundreds of millions of people, provides food, and affirms the cultural identity of many coastal communities and contributing to their survival. The most felt impact of the pandemic on fisheries industries is that the price of fish has dropped dramatically due to the decreased demand for foodstuffs that are generally consumed. The drastic drop in fish prices is not worth the high labour and operational costs (**Sari *et al.*, 2020**).

According to the Indonesian Traditional Fisherman Community (KNTI), the sale of caught fish has experienced a major obstacle since many fish collectors/fish buyers/fish traders do not serve or limit the purchase of fish from fishermen. The main reason is the decreasing purchasing ability of Indonesian society during the pandemic (**Hamzah, 2021**). At any rate, the continuation of the decline in fish trading activities will certainly have an impact on reducing the daily income of the community, especially local fishermen and fish farmers. Regardless, the fisheries sector plays an important role in developed and developing countries, employing hundreds of millions of people directly or indirectly, providing food, affirming the cultural identity of many coastal communities and contributing to survival (**Sari *et al.*, 2020**).

According to the data from **FAO (2020)**, Indonesia has become the second biggest producer of fish and fishery products after China with a total of 6.43 million tonnes of marine captured production (**FAO, 2022; European Commission, 2022; Statista, 2023a**). The Ministry of Marine Affairs and Fisheries stated that Indonesia's fishery products are accepted in 171 countries including the United States, China, Japan, and the European Union (**AntaraNews, 2022**). However, only a few fishery products were exported to other countries. Most of the fishery productions in Indonesia are used mainly for domestic consumption. Only 13,13% of the total productions are used for export (**BPS, 2022a**). Data from BPS shows that most of the fishery distributors in Indonesia are in East Java Province with 129 companies or 46.24% of total national establishments (**BPS, 2022a**). While in terms of the number of fishing ports, East Java placed second with 8 fishing port units (**BPS, 2022b**).

Sendang Biru is one of the coastal areas that is being prioritized by the government to be the centre of marine fishery resources and the fishing industry and is also considered the largest tuna producer in East Java. Therefore, the Covid-19 pandemic that happened during 2019-2022 has great impact on the fishery activities in Sendang Biru.

## MATERIALS AND METHODS

This research was conducted in Tambakrejo Village, Sumbermanjing Wetan Subdistrict, Malang Regency, East Java Province. The population in this study were all households in Tambakrejo Village, Sumbermanjing Wetan Subdistrict, Malang Regency, East Java Province. The sample selection technique used to collect primary data is a quota sampling technique with a total of 204 household respondents. The type of data collected is in the form of primary data derived from filling out questionnaires and in-

depth interviews, and secondary data consisting of geographic and demographic information of the research location. This research uses descriptive statistical data analysis using Microsoft Excel and Statistical Package for Social Science (SPSS).

## RESULTS

### Lack of customers

However, Sendang Biru coastal region in East Java did not seem to experience a severe impact during the pandemic. As one of the biggest centers of fish production in East Java, most of the population in Sendang Biru are working as fishermen. During the pandemic, they indeed experienced some impacts in terms of health, society, and the economy. Notwithstanding, these impacts did not cause a crucial hindrance to the village's fishery activities and economy. Sendang Biru is a coastal area that is part of Tambakrejo Village in Malang Regency, East Java, Indonesia. Tambakrejo Village is one of the villages located in a coastal area with hilly land conditions. Sendang Biru is a coastal area that is very potential in the field of fisheries that is in Tambakrejo Village, Sumbermanjing Wetan District, Malang Regency, East Java, Indonesia. In 2015, Sendang Biru coastal area was declared by the Ministry of Marine Affairs and Fisheries as one of the integrated fisheries areas in East Java Province (**Kabar24 News, 2017**). The potential of fisheries in Sendang Biru Hamlet is also supported by the existence of a coastal fishing port called the Pondokdadap Coastal Fisheries Port Technical Implementation Unit (UPT PPP). UPT PPP Pondokdadap is a Technical Implementation Unit under the Capture Fisheries Division of the East Java Provincial Fisheries and Maritime Affairs Office established based on East Java Governor Regulation No. 74/2018 (**UPT PPP Pondokdadap, 2018**).

Most of the villagers are fishermen and some are rain-fed rice farmers and planters. This is because the residents who come to Tambakrejo Village, especially Sendang Biru Hamlet, come from various regions that bring various influences and cultural patterns. Based on Village Government Administration data in 2021, the population of Tambakrejo Village consists of a total of 8,673 people, with around 4,417 working population. Among them, around 2,169 people or 49% are working as fishermen, followed by farmers (25%), farm workers (4.9%), Ojek drivers (4.5%), and migrant workers (4.2%) (Table 1).

**Table 1.** Type of working population in Tambakrejo Village

| No | Occupation      | Male  | Female | Total (n %)       |
|----|-----------------|-------|--------|-------------------|
| 1. | Fishermen       | 2,169 | -      | <b>2,169 (49)</b> |
| 2. | Farmers         | 716   | 394    | <b>1,110 (25)</b> |
| 3. | Farm workers    | 205   | 56     | <b>261 (4.9)</b>  |
| 4. | Ojek drivers    | 201   | -      | <b>201 (4.5)</b>  |
| 5. | Migrant workers | 83    | 104    | <b>187 (4.2)</b>  |

| No           | Occupation                             | Male         | Female     | Total (n %)        |
|--------------|--|--------------|------------|--------------------|
| 6.           | Small and medium entrepreneurs         | 50           | 67         | <b>117 (2.6)</b>   |
| 7.           | Animal husbandries                     | 50           | 38         | <b>88 (2)</b>      |
| 8.           | Drivers                                | 58           | -          | <b>58 (1.3)</b>    |
| 9.           | Government company employees           | 22           | 27         | <b>49 (1.1)</b>    |
| 10.          | Private company employees              | 25           | 16         | <b>41 (1)</b>      |
| 11.          | Retired TNI/POLRI/PNS                  | 25           | 15         | <b>40 (0.9)</b>    |
| 12.          | Masons/carpenters                      | 22           | -          | <b>22 (0.5)</b>    |
| 13.          | Businessmen                            | 10           | 8          | <b>18 (0.4)</b>    |
| 14.          | Civil servants (PNS)                   | 9            | 5          | <b>14 (0.3)</b>    |
| 15.          | Trained village shaman                 | 5            | 7          | <b>12 (0.27)</b>   |
| 16.          | Itinerant traders                      | 8            | 3          | <b>11 (0.24)</b>   |
| 17.          | Mechanics                              | 10           | -          | <b>10 (0.22)</b>   |
| 18.          | Indonesian National Armed Forces (TNI) | 3            | -          | <b>3 (0.06)</b>    |
| 19.          | Police Officers (POLRI)                | 3            | -          | <b>3 (0.06)</b>    |
| 20.          | Barbers                                | 3            | -          | <b>3 (0.06)</b>    |
| <b>Total</b> |  | <b>3,677</b> | <b>740</b> | <b>4,417 (100)</b> |

Source: **Tambakrejo Village Government Administration data (2022).**

Based on the data above, the majority of the population in Sendang Biru Hamlet works as fishermen. The strategic coastal area which is directly adjacent to the Indian Ocean and the large potential of fishery resources in that water area makes fishing one of the sources of livelihood for residents in Sendang Biru. In general, fishermen in Sendang Biru use lifeboats as a means of catching fish. The farther the fishing area is, the larger and more modern the vessels used will be (**Melci *et al.*, 2010**).

The increase in the number of fishermen generally occurs during the fishing season. Fish season (peak season) is a period of time when fish stocks in these waters reach a large number with abundant catches. The fishing season in Sendang Biru waters as well as in other waters in Indonesia is strongly influenced by two seasons, namely the western and eastern monsoons, where each season lasts for a certain period of time, besides that the fish season is closely related to the changing seasons. The activity of buying and selling fishery products caught by Sendang Biru fishermen is usually managed by UPT Pondokdadap. Apart from the UPT PPP Pondokdadap, there is also the UPTD Fish Auction Place (TPI) which is one of the operational technical implementation establishments at the Maritime Affairs and Fisheries Service of Malang Regency which has the task of carrying out coaching and management of Fish Auction Places. Potential Fish Auction Sites (TPI) in Malang Regency include TPI in Pondokdadap Sendangbiru Beach, Tambakrejo Village, Sumbermanjing Wetan District, TPI in Licin Beach, Lebakharjo Village, Ampelgading District, and TPI in Sipelot Beach in Pujiharjo Village, Tirtoyudo District. Among TPI's potentials, only Pondokdadap TPI has been running well

and has become a capture fisheries centre, while the other TPI's potentials have not been utilized optimally (**Tambakrejo Village Government Administration data, 2022**).

Organizing fish auctions at the Pondokdadap Fish Auction Place (TPI) is intended to be able to further increase the income and welfare of fishermen by achieving reasonable fish prices, which can protect fishermen from unfair competition by traders or middlemen. The existence of an open purchase of fish by way of the auction will release fishermen from buying fish using bonds from the middlemen who have been detrimental to fishermen. The production of fish auctioned at the Fish Auction Place (TPI) in 2008 decreased by 30.61% compared to 2007. The highest production was skipjack, baby tuna, tuna, cob and flying tuna. Fish production auctioned at TPI every month tends to fluctuate and is generally influenced by weather factors and auction prices (**Tambakrejo Village Government Administration data, 2022**).

This number is increasing from year to year. In 2018 the total fish landed at PPI Pondokdadap reached 15,669,874 kilograms with a production of IDR 157.809 billion. Then in 2019, production reached 13,107,694 kilograms with a production value of IDR 128.246 billion. Even though the catch of fishermen had decreased in 2020 due to the pandemic, production increased again in 2021, with a total of 11,251,430 kilograms of fish caught and the money generated from the production process reached IDR 180.945 billion (**Juli, 2022**).

### 1. Condition during Covid-19

According to depth-interview conducted by the authors, all of the residents in Sendang Biru agreed that the Covid-19 pandemic indeed affected their health and social, and economic conditions. In the health aspect, Covid-19 posed a threat to the well-being of inhabitants in Sendang Biru. More than a hundred people in Sendang Biru hamlet died due to Covid-19. However, most of the people in that hamlet agreed that compared to other regions, this number was lower in the case of casualties. From the survey result of 204 respondents, 191 people or 93.62% said that they had never experienced symptoms of Covid-19 (Table 2). Even those who might have experienced symptoms of Covid-19 did not take the test because they felt it was unnecessary. People in Sendang Biru usually relied on medical herbs and daily exercise to keep their bodies healthy and prevent disease.

**Table 2.** Covid-19 symptoms and test

| Have symptoms | Have Covid-19 test |                 |                   | Total (%)        |
|---------------|--------------------|-----------------|-------------------|------------------|
|               | Yes                | No              | Blank             |                  |
| Yes           | 0                  | 10              | 0                 | 10 (4.9)         |
| No            | 0                  | 0               | 191               | 191 (93.6)       |
| No idea       | 0                  | 0               | 3                 | 3 (1.5)          |
| <b>Total</b>  | <b>0</b>           | <b>10 (4.9)</b> | <b>194 (95.1)</b> | <b>204 (100)</b> |

Source: Research Survey Data in Sendang Biru Hamlet, 2023.

In the social aspect, the most-felt impact of the pandemic was the social restriction imposed by the Government to reduce the spread of the virus. People in Sendang Biru said that they were not allowed to go out of town unless it was necessary, and were bested to reduce social gatherings to only a few people. However, people in Sendang Biru also stated that there was no lockdown in their area. The main reason was the majority of people in Sendang Biru depended on fishing for their earnings. If the Government implemented a lockdown, a lot of people would not be able to survive during the pandemic because there is no income. Therefore, the Sendang Biru government made an exception for fishers to go out at sea. Fishermen's families continue to carry out fishing and shipment activities during the pandemic while still considering the health protocol.

Another impact felt by the fishery community during the Covid-19 pandemic was economic conditions. In several coastal areas in Indonesia, it is reported that fish prices dropping dramatically, especially fish species which are export commodities due to decreased demand. Fish collectors and fish exporter companies were forced to be closed and fish distribution was experiencing obstacles due to PSBB (Large-Scale Social Restrictions), and increased fishing costs due to scarce fuel, hence prices went up. Small fishermen also suffered in regard to the sale of catches because many fish collectors did not serve or limit the purchase of fish from fishermen or cultivators. This condition caused many fishermen and cultivators to be overwhelmed in selling their catch. In fact, in several areas, such as in North Kalimantan, collectors had to halt the purchase of fish which then forced the fishermen to sell their catch to local buyers. However, this economic crisis did not seem to happen in Sendang Biru. Around 193 or 94.6% of the respondents stated that there was no major economic impact of the pandemic on the sustainability of their job as fishermen and their income (Table 3).

**Table 3.** Economic impact on losing job and income

| Losing Jobs  | Reduce incomes [n(%)] |                    |                 | Total           |
|--------------|-----------------------|--------------------|-----------------|-----------------|
|              | Yes                   | No                 | No Idea         |                 |
| Yes          |                       | 1 (0.49)           |                 | 1 (0.49)        |
| No           | 4 (1.96)              | 189 (92.65)        | 6 (2.94)        | 199 (97.55)     |
| No Idea      |                       | 3 (1.47)           | 1 (0.49)        | 4 (1.96)        |
| <b>Total</b> | <b>4 (1.96)</b>       | <b>193 (94.61)</b> | <b>7 (3.43)</b> | <b>204(100)</b> |

Source: Source: Research Survey Data in Sendang Biru Hamlet, 2023.

Table (4) shows that a lot of fishers in Sendang Biru stated that they were still able to go to the sea during the Pandemic. Although some of them stated that the frequency was decreased. More than 90% of fishermen's households agreed that there were no serious impacts of the pandemic on their ability to go out at sea. Because the Village's Government did not strictly impose a lockdown in Sendang Biru, a lot of fishers were still allowed to go fishing during the pandemic.

**Table 4.** Fishing ability during Covid-19

| <b>Fishing ability during the pandemic</b> | <b>Total (%)</b> |
|--|------------------|
| Able to fish but decreased                 | 15 (7.35)        |
| No impact (same as usual)                  | 189 (92.65)      |
| <b>Total</b>                               | <b>204 (100)</b> |

Source: Research Survey Data in Sendang Biru Hamlet, 2023.

Although there was no huge impact on the economic conditions of fishers in Sendang Biru in general, the pandemic did affect some of their economic activities such as marketing of the fish products. Several fishers in Sendang Biru are small-scale fishers. They commonly sell their catches to local buyers and markets. According to the interview with local fishers, some fishers' sales decreased, and there was a lack of orders from local markets. Even though the volume of their catches remained the same compared to before the pandemic, there were few buyers in the local markets. Particularly during the weekend when most big distributors are on their day off. Usually, there are a lot of people from out of the village or town who come to Sendang Biru to buy fish. But due to the social restriction, outsiders were not allowed to travel into the village.

Several fish merchants also mentioned that before the pandemic, they were able to sell more than 1000 pounds of fish a day. However, during the pandemic, it took several days to have them sold out. Albeit there were several obstacles in terms of selling and marketing the fish products, this condition did not cause a substantial crisis in the local economy. Some fishers and fish merchants argued that despite the pandemic, they were still able to sell their fish to their permanent customers. They also had several side jobs to help them replenish their income.

## DISCUSSION

### Resilience strategy of fishers in Sendang Biru during the pandemic

The findings indicate that Sendang Biru has demonstrated a notable level of resilience in facing various challenges. The social fabric of the community, characterized by strong social networks and mutual support, has played a crucial role in fostering resilience. Additionally, proactive health initiatives, developed by the community, have contributed to the village's ability to mitigate the impact of health crises. Furthermore, economic diversification and the promotion of local entrepreneurship have enhanced the village's economic resilience, enabling adaptive responses to economic fluctuations.

### The social and health resilience

The social resilience observed in Sendang Biru can be attributed to several factors, including strong social connections, predominantly familial relations, and relative social stability despite being under lockdown measures. Notably, the absence of a strict lockdown has allowed for the maintenance of social cohesion within the community.



One key element contributing to social resilience is the strong connection among the villagers. These connections foster a sense of community and mutual support, enabling individuals to rely on one another during challenging times. By having close-knit relationships, such as those found in familial bonds, the villagers can draw upon emotional and practical support from their immediate and extended families. This support network acts as a buffer against the adverse effects of crises and enhances the community's ability to cope and recover.

Moreover, the prevalence of familial relations in Sendang Biru village plays a crucial role in reinforcing social resilience. Family ties often foster a sense of belonging, identity, and shared values, which are essential in times of hardship. The villagers can find solace and assistance within their family units, creating a strong foundation for collective resilience. This familial support system strengthens social bonds, promotes a collective mindset, and enables the community to face challenges together.

Despite being under lockdown measures, the social stability in Sendang Biru village has remained relatively intact. This stability might be attributed to various factors, such as a shared sense of responsibility, effective communication channels, and a strong community spirit. The absence of a strict lockdown suggests that the community has found alternative ways to mitigate the risks associated with the pandemic while still maintaining essential social interactions. This flexible approach allows for a balance between public health measures and the preservation of social connections, further contributing to social resilience.

The unique approach of Sendang Biru village, where the Covid-19 lockdown measures were not strictly implemented but the community still respected the importance of avoiding crowds, practising social distancing, and wearing masks, has resulted in a relatively low number of cases compared to other regions. This situation highlights the effectiveness of the village's social resilience and proactive response in mitigating the spread of the virus.

Another crucial aspect is the effective communication and dissemination of information within Sendang Biru village. The community leaders and local authorities have played an essential role in educating the villagers about the importance of preventive measures. This transparent communication has empowered the villagers to make informed decisions regarding their health and has fostered a collective responsibility towards preventing the spread of the virus.

The relatively low number of Covid-19 cases in Sendang Biru can also be attributed to the community's emphasis on self-regulation and mutual accountability. Despite the absence of strict enforcement, the villagers have taken it upon themselves to hold each other accountable for following preventive measures. This peer-driven approach creates a social norm where non-compliance is discouraged, and individuals feel a sense of obligation to protect the well-being of their neighbours. By collectively reinforcing and

practising preventive behaviours, such as social distancing and mask-wearing, the community has created a resilient and protective social environment that limits the virus. Additionally, the village's geographical and demographic factors may have contributed to the relatively low number of Covid-19 cases. Being a smaller and more isolated community in the coastal area, Sendang Biru may have had fewer opportunities for the virus to enter and spread within its borders. The close-knit nature of the community and predominantly familial relations may have facilitated effective contact tracing and containment efforts, further limiting the virus's impact. However, it is important to note that the success of the village cannot be solely attributed to these factors, as the proactive response and responsible behaviour of the community members have played a significant role.

The general population in Sendang Biru has been fortunate to avoid significant health-related challenges during the pandemic. However, some participants reported contracting the virus and experiencing varying degrees of illness. Concerns about stigmatization and mistrust in the local healthcare systems led them to choose self-isolation over seeking formal medical treatment. It also sheds light on the challenges faced in accessing healthcare services, including limited resources and fear of the virus.

The research revealed that individuals in Sendang Biru village have had varying experiences with Covid-19. Some participants mentioned infections within their families, while others discussed their personal experiences with symptoms. Although the general population in the village has been fortunate to avoid major health challenges, these individual experiences highlight that the virus has still affected some members of the community spread of the virus.

However, due to concerns about stigmatization and mistrust in the local healthcare systems, some individuals opted for self-isolation rather than reporting their Covid-19 cases to local authorities. This decision reflects the need for greater awareness and understanding within the community to address the stigma associated with the virus. It also emphasizes the importance of building trust in the healthcare system to ensure individuals feel comfortable seeking appropriate medical treatment when needed.

Access to healthcare services, including Covid-19 testing and hospitalization, posed challenges in certain regions of Sendang Biru village. Limited resources and fear of the virus were significant factors contributing to these challenges. As a result, some individuals resorted to self-medication and self-isolation as coping strategies. This highlights the need for improved healthcare infrastructure and resources in the village to ensure that all community members can receive proper medical attention when required.

Financial constraints also impacted individuals' ability to seek proper healthcare in Sendang Biru village. This led to a reliance on home remedies and over-the-counter medications as a means of managing symptoms. It is crucial to address these financial barriers to healthcare access to ensure that all individuals, regardless of their economic

circumstances, can receive the necessary medical attention and support during times of illness.

Despite these challenges, the research revealed that the general population in Sendang Biru village has been fortunate not to encounter significant health-related challenges during the Covid-19 pandemic. Many residents have completed the recommended vaccination process, which has contributed to their overall health resilience. Additionally, consistently adhering to preventive measures, such as mask-wearing and practising physical distancing, has been crucial in maintaining personal well-being and preventing the spread of the virus within the community

### **Economic resilience**

The Covid-19 pandemic had a significant impact on the economic activities of the residents of Sendang Biru, particularly those involved in fish trading and fishing. The pandemic crisis resulted in reduced sales and income for individuals in these sectors. Participants in the research highlighted the difficulties they faced in selling their products and the decline in prices due to limited market access. Many individuals experienced financial hardships and had to rely on support from family members or borrow money to sustain their livelihoods.

One of the key strategies employed by individuals to overcome the economic challenges caused by the pandemic was the diversification of income streams. They sought financial assistance from relatives and availed of loans from banking institutions. The support received from family members and the flexibility provided by the banking institution in terms of loan repayment deferrals helped individuals manage their financial obligations during these challenging times. This highlights the importance of having access to multiple sources of income and having a support system in place to navigate economic crises.

The fishing industry, which plays a significant role in the village's economy, witnessed disruptions during the pandemic. While men predominately engage in fishing activities, women have exhibited considerable prowess in various other spheres of economic activity. Women play an indispensable role in financial transactions, owning fishing vessels, and working as fish collectors. Their involvement in these roles surpasses that of their male counterparts. Women also hold a significant presence in the local market. The inclusion of women in decision-making processes within the community highlights the importance of gender equality and the active participation of both genders in economic activities.

Despite these difficulties, the region presents opportunities for economic activities such as fish trade and the sale of food and beverages. The remote location of the area makes it conducive for marketing products that are not readily available within the locality, providing an additional revenue stream for individuals.

The lockdown measures and restrictions imposed during the pandemic posed challenges to the operation of businesses and hindered income generation. Limited job opportunities and disruptions in the fishing industry further impacted the income of individuals engaged in fishing activities. The decline in sales, limited access to markets, and reduced customer base added to the economic strain experienced by the community.

In Sendang Biru village, one characteristic that sets it apart from other regions in terms of economic resilience is the prevalence of individuals having multiple occupations or work statuses. This unique characteristic has played a crucial role in mitigating the impact of the pandemic crisis on the local economy. When one occupation or job suffers losses due to the crisis, individuals can rely on their other work statuses to help sustain their livelihoods. As a result, the economic resilience of the village has been strengthened, and the overall impact on the community's economic well-being has been less severe compared to other regions.

The Covid-19 pandemic has posed significant challenges to economies worldwide, with many regions experiencing drastic economic downturns. However, in Sendang Biru village, the economic impact has been relatively less severe due to the diversified work statuses of its residents. Unlike regions heavily reliant on a single industry or occupation, such as tourism or manufacturing, the villagers in Sendang Biru engage in multiple occupations simultaneously. This diverse range of work statuses provides a safety net that protects them from complete economic collapse when one sector experiences a downturn.

The advantage of having multiple occupations becomes apparent during times of crisis, such as the pandemic. For instance, if an individual primarily works as a fisherman and experiences a decline in fish catch or a decrease in demand for fish due to lockdown measures, they can rely on their secondary occupation, such as agriculture or small-scale entrepreneurship, to sustain their income. This flexibility in work statuses allows individuals to adapt quickly to changing circumstances and find alternative sources of income when needed.

Moreover, the practice of having multiple occupations is deeply ingrained in the culture and lifestyle of the villagers in Sendang Biru. It is not uncommon to find individuals engaging in fishing activities in the morning, working in small-scale businesses during the day, and tending to their agricultural activities in the evening. This dynamic approach to work is rooted in the understanding that diversifying one's income sources is a practical strategy to ensure financial stability and resilience in the face of economic uncertainties.

The village's geographic location also contributes to the effectiveness of this economic resilience strategy. Sendang Biru is a coastal village with access to both marine resources and fertile agricultural land. The combination of fishing activities and agriculture as primary occupations provides a natural complementarity that further strengthens the villagers' economic resilience. If fishing activities are temporarily

affected, individuals can focus more on agricultural activities, such as cultivating crops or raising livestock, to compensate for the loss of income. This inherent diversity in available economic opportunities further safeguards the village's economy from severe shocks.

Furthermore, the supportive social structure within the community reinforces the economic resilience of Sendang Biru. The villagers have a strong sense of communal cooperation and mutual assistance. When an individual faces difficulty in one occupation, the community comes together to provide support and guidance. This may involve sharing resources, knowledge, or even temporary employment opportunities with other households. This collective effort ensures that the economic burden is shared and mitigated, preventing any individual or family from bearing the full brunt of an economic downturn.

The ability to adapt and transition between different work statuses is also facilitated by the entrepreneurial spirit that permeates the village. Many individuals have developed entrepreneurial skills and engage in small-scale businesses or cottage industries alongside their primary occupations. This entrepreneurial mindset enables them to identify new opportunities, innovate, and create additional income streams. It also fosters a culture of self-reliance and resourcefulness, which are essential traits in times of economic uncertainty.

## **CONCLUSION**

The Covid-19 pandemic that hit Indonesia and globally in 2019 until late 2022 caused a huge catastrophe in several industries, including fisheries. As the second largest fishery producer, fishery industries in Indonesia can be considered one of the most crucial aspects of the country's economy. However, the pandemic has created a great impact on the stability of fishery production. Due to the large-scale social restriction that was imposed by the Government to reduce the spread of Covid-19, some fishers experienced several obstacles. Global fish prices dropping dramatically, especially fish species which are export commodities due to decreased demand. Some fish markets and fish distributors were forced to be closed because of low purchases from the fish collectors. In several coastal regions in Indonesia, small-scale fishers also experienced difficulties in selling their products because

The findings highlight the multifaceted nature of economic, social, and health resilience among individuals during times of crisis. It emphasizes the importance of social support networks, adaptive strategies, and resourcefulness in overcoming challenges. The findings can inform policymakers and stakeholders in developing targeted interventions to support individuals and communities in building resilience in the face of economic, social, and health crises.

The social resilience observed in Sendang Biru village is a result of strong social connections, predominantly familial relations, and relative social stability despite being under lockdown. The absence of a strict lockdown has allowed the community to maintain social cohesion and continue their daily interactions, reinforcing their collective resilience. By leveraging their social networks and shared responsibilities, the villagers in Sendang Biru can better withstand and recover from the challenges they face.

The social resilience and proactive response of Sendang Biru village in managing the Covid-19 pandemic have resulted in a relatively low number of cases compared to other regions. Through their strong sense of responsibility, adherence to preventive measures, effective communication, and mutual accountability, the villagers have created a protective social environment that limits the spread of the virus. The combination of these factors, along with the village's geographical and demographic characteristics, has contributed to the success of Sendang Biru in navigating the challenges posed by the pandemic. This case serves as an example of how a community's social resilience and responsible behaviour can effectively mitigate the impact of a global health crisis.

Sendang Biru faced significant economic challenges during the Covid-19 pandemic, particularly in the fishing and fish trading sectors. The reduced sales, limited market access, and disruptions in economic activities had a profound impact on the livelihoods of individuals. However, through diversification of income streams, financial support from family members and local institutions, and the resilience of women in various economic roles, the community demonstrated economic resilience in the face of adversity. Moving forward, it is crucial to address the challenges faced by the community, including improving market access, creating more job opportunities, and implementing measures to mitigate the impact of extreme weather conditions. By fostering economic resilience and supporting diverse economic activities, Sendang Biru village can overcome future economic challenges and build a more resilient and sustainable local economy.

The economic resilience of Sendang Biru village stands out due to the prevalence of individuals having multiple occupations or work statuses. This unique characteristic has been instrumental in mitigating the impact of the Covid-19 pandemic on the local economy. The ability to transition between different work statuses provides a safety net that protects individuals from complete economic collapse when one sector experiences a downturn. The practice of having multiple occupations, deeply rooted in the village's culture and lifestyle, coupled with its geographic advantages and a supportive social structure, further strengthens the economic resilience of the community. As a result, Sendang Biru village has demonstrated remarkable resilience in the face of the pandemic crisis, serving as an inspiring example of how diversification and adaptability can contribute to economic stability and well-being.

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