Tenure Rights

Indonesia

Promotion and Defence of Fishers' Tenure Rights:

A Case Study on Tenure Rights of Traditional and Small-scale Fishers in Gresik, East Java, and in Tarakan, North Kalimantan

Written by
Gunawan &
Miftahul Khausar

International Collective in Support of Fishworkers
ICSF

Fisherwomen drying the catch in Indonesia, by KNTI

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Small-scale fishing craft in Gresik regency, East Java, Indonesia, by Miftahul Khausar/KNTI

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Glossary

ABK	Anak Buah Kapal (Ship's crew)
BBM	Bahan Bakar Minyak (fuel oil)
BPS	Badan Pusat Statistik (The Central Statistics Agency)
EEZ	Exclusive Economic Zone (EEZ)
Element of Tenure	Includes gear usage, craft and gear combinations, species landed, fishing grounds, and the pattern of these elements' interactions with each other across seasons
RZWP-3-K	Rencana Zonasi Wilayah Pesisir dan Pulau-Pulau Kecil (Zonation Plan for Coastal Areas and Small Islands)
FMA	Fisheries Management Area (Wilayah Pengelolaan Perikanan)
KNTI	Kesatuan Nelayan Tradisional Indonesia (Indonesian Traditional Fisherfolk Union)
Kurau fish	A kind of fish known by its Latin name, *Polydactyus octonemus*. It inhabits estuarine areas. This fish is a specialty of Tarakan, North Kalimantan, and is highly valued. Those who catch this fish are known as Kurau fishers The gear they use is called Pukat Kurau or Kurau fishing gear.
Minimum Living Income	An estimation of monthly living income is the minimum requirement needed to run a household along with fishing operations. This estimate is made by the surveyed SSF and includes expenses for household needs, fishing operations, education and healthcare, and credit repayments.
MoMAF	Ministry of Marine Affairs and Fisheries (Kementerian Kelautan dan Perikanan)
SDGs	Sustainable Development Goals
SSF	Small-scale Fishers/Fisheries
Tanah Timbul (aanslibbing)	This term refers to land accretion that emerges or becomes visible in coastal waters, such as those near beaches, rivers and lakes.

Fisherwoman collecting the catch from the nets, Indonesia, by KNTI

1. Actualising Tenure Rights

1.1 Introduction

Fisheries policy in Indonesia has provided an affirmative policy framework, along with protection and empowerment, for small-scale fishers (SSF). However, specific policy decisions are needed based on the peculiarities of each coastal rural community, especially SSF, whose existence is influenced by their tenure rights in marine areas (sea and coastal waters) and on land (small islands and coastal villages). Marine tenure includes traditional community fishing areas and fishing zones, as well as fishing gear models, types of fish caught, fish seasons, and patterns of fish processing and distribution. Coastal tenure includes land for aquaculture, processing, marketing, and fisherfolk's settlements.

Under the constitution and legal framework of Indonesia, tenure is understood as the possession and utilisation of agrarian resources—the land, water, and natural wealth contained therein. This possession can be observed in both coastal and maritime areas, where there is direct ownership by the public, known as traditional or customary areas. Additionally, areas are designated for utilisation or exploitation; these are regulated by the State, represented in such cases by the regional government. In coastal areas, aquaculture by the community is conducted on land that is owned collectively by the community, including their dwellings. Nevertheless, there are instances where aquaculture and settlements are located on land owned or controlled by the State that has not been redistributed to the public.

Within Indonesia's democratic and republican system of governance, state ownership is interpreted as being "of the people, by the people, and for the people". Based on this concept of sovereignty, the government formulates policies that are embodied in legislation, and manages matters such as granting concessions, zoning regulations, resource management and oversight, all of which are aimed at providing the maximum benefit of the people.

Of course, because a right is also bound by other rights, the protection and fulfilment of tenure rights as referred to above are also related to the protection and fulfilment of other rights, including civil-political, economic, social, and cultural rights, as stipulated in the human rights instruments and the Sustainable Development Goals (SDGs). The universality of human rights applies to all fisherfolk. Target 1.4 of SDG-1 has stated that: "...by 2030 ensure that all men and women, particularly the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership, and control over land and other forms of property, inheritance, natural resources, appropriate new technology, and financial services including microfinance".

The central and regional governments have the authority to determine fishery management areas; power over zoning coastal waters and small islands; control and use of land on small islands; issue fishing business permits; impose restrictions on fishing gear and fishing; and grant land rights over fishers' land and houses. This authority should be a progressive realisation of respect for, and protection and fulfilment of, fisherfolk's tenure rights. It is important to both determine the extent of fishers' awareness of their tenure rights, and examine the government's political will to recognise, respect, protect, and fulfil the tenure rights of small-scale fishers and SSF aquaculture.

1.2 Objectives

This case study aims to identify the tenure rights of SSF; to document threats to such tenure rights in the context of fisheries; and to analyse government policies and arrangements at various levels to recognise and protect these tenure rights. Its expected outcomes include: a better realisation of SSF's tenure rights; the protection of their fishing grounds from destructive and large-scale fishing pressures; improvement in the regulatory framework to protect their tenure rights; and to serve as advocacy material in the wider framework of promoting and defending such tenure rights.

1.3 Methodology

This case study used a participatory research approach—specifically, a dialogue-based process to generate initiatives to assert and validate tenure claims; to then find obstacles to tenure access; and then to defend tenure rights. Its research methodology was designed to explore tenure rights in Indonesia within the context of fishing and aquaculture activities prevalent in specific regions. To gather data, the case study primarily involved coastal youths, who conducted the surveys, and families engaged in fishing and aquaculture. Surveys were conducted using questionnaire sheets prepared in Bahasa Indonesia, the official and national language. The research was conducted over three months in 2023, from April to June. It was thereafter subjected to both a desk and field review. In addition to surveys, the methodology included observations of coastal water conditions to gain deeper insights into the relevant environmental aspects. This holistic approach aimed to discern the nuances of fishing and aquaculture within the specific geography.

A total of 60 eligible respondents participated in the survey—30 each from Gresik regency and Tarakan City. All participants were male; this decision was based on the observed demographic participation in these specific activities within the targeted regions. The case study needed to align with the practical constraints encountered during the survey, focusing on engaging those predominantly involved in the activities central to the research. However, the decision to involve only male respondents led to constraints in addressing gender-specific concerns pertaining to tenure rights. These limitations notwithstanding, the methodology was suited to provide a focused understanding of tenure rights.

Legal research methods were used to evaluate policies related to fisherfolk's tenure rights. The policy approach assessed how the government regulates SSF's tenure rights. The case approach, based on desk reviews, looked at the gap between policy and practice in the field. In this framework, it examined two cases: (i) the reality of tenure rights of coastal rural communities, especially SSF; and (ii) based on field reviews, the state's recognition, respect, protection, and fulfilment of tenure rights. Data and information

collection were carried out in the two locations in the presence of members of KNTI (Indonesian Traditional Fisherfolk Union). Locations were chosen based on various factors of tenure patterns and high levels of vulnerability to violations of tenure rights. Through an examination of fishers' tenure in multiple locations of Tarakan and Gresik, the case study intends to represent various social groups of fishers and to depict the peculiarities of tenure insecurity faced by SSF communities.

Being a coastal city, a significant part of the fisher population in Tarakan City, North Kalimantan province, relies on the sea. Tenure issues are related to problems with the fishing grounds. Fishers face challenges due to government policies regarding fishing zones and the presence of non-fishing vessels such as coal-carrying barges, tourist boats, logistics vessels, among others. Their presence endangers the safety of fishers on crafts and also generates waste. The right to housing land for fishers is also a concern here. In Tarakan, which is located within Fisheries Management Area (FMA) 716 (see Figure 1), the majority of fishers reside in wooden houses above the water. Without any regulation, the settlements in the fishing areas here have grown rapidly, in an irregular manner, every year—tending to become coastal slums. Ensuring proper housing for fisher families is an important aspect of their tenure rights, as having a secure place to live is essential for their well-being and the sustainability of their fishing activities. To examine the problems above, it was necessary to review the management of coastal settlements in suburban areas, to assess how tenure problems occur here, and to study their impact on residential areas and the life of traditional fisherfolk. These tenure issues require careful consideration and policy solutions.

With its significant (140 km) coastline, Gresik regency in East Java province is home to a substantial fisher population reliant on marine resources. Of this coast, 69 km is on the mainland of Java Island, stretching between Kebomas, Gresik, Manyar, Bungah, Sidayu, Ujungpangkah, and Panceng sub-districts. The remaining 71 km falls in the Sangkapura and Tambak districts on Bawean Island. Aquaculture using both traditional and modern systems is quite common in Gresik, which is located within FMA 712 (see Figure 1). Tenure issues here involve challenges to fishing grounds due to the presence of trawl gear and pollution from aquacultural waste. In areas designated for aquaculture, pollution intensifies due to the discharge of waste, notably from major companies involved in vannamei shrimp farming. This impacts the marine ecosystem in the fishing zones of local fishers. Resolving tenure issues in Gresik demands a comprehensive strategy, along with regulatory measures aimed at safeguarding the rights and sustainability of the local fisherfolk.

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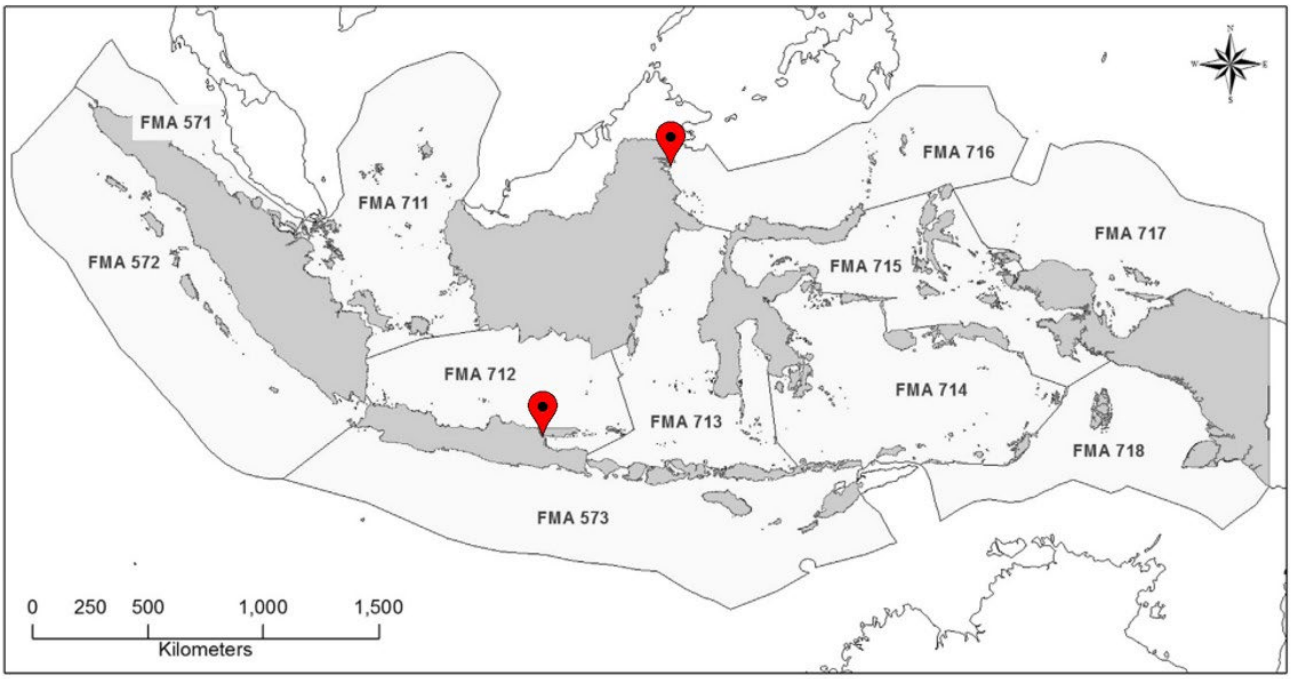
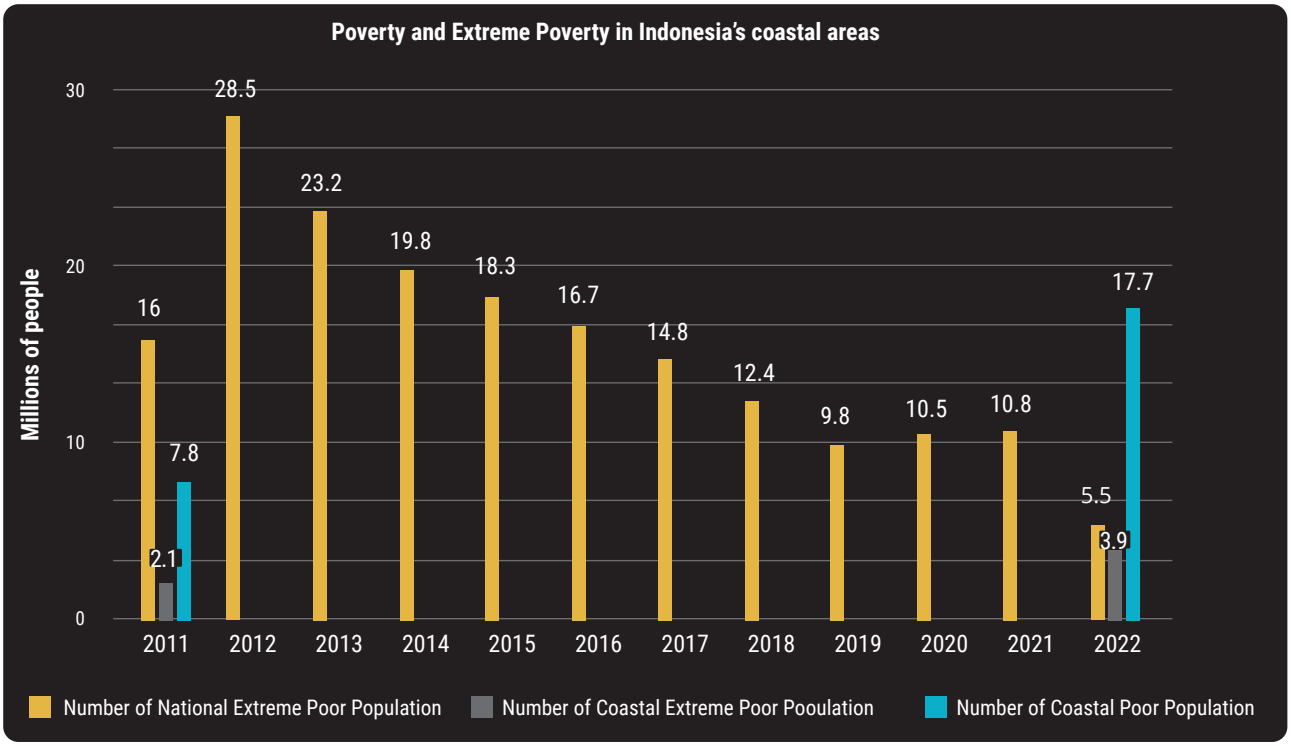
Figure 1. Boundaries of fisheries management areas (FMAs) in Indonesia



Source: Pomeroy, Robert, et al (2019).

Figure 2. Population of poor and extremely poor in Indonesia's coastal areas



Source: Based on data from BPS (https://www.bps.go.id/id), compiled, processed and visualised by KNTI

2. Tenure factsheets

2.1 The main producers

As an archipelagic country, Indonesia comprises 17,001 islands, as recorded by the Central Statistics Agency (BPS) in 2024. The country's waters cover two-thirds of its area, harbouring vast natural resources, including significant capture fisheries. According to the latest data, the annual production of Indonesia's capture has consistently exceeded 7 million tonnes. For instance, in 2022, capture fisheries production reached 7.49 million tonnes; it increased further in 2023 to about 7.77 million tonnes. Indonesia's fisheries sector encompasses marine and inland capture fisheries, as well as aquaculture. It is a cornerstone of the national economy and pivotal to food security. Indonesia is a major contributor to global capture fisheries, accounting for 8.2 per cent of global production in 2020. This extensive production supports not only domestic consumption, but also a strong export industry, generating considerable foreign exchange revenue.

The sector contributed 2.66 per cent to Indonesia's Gross Domestic Product (GDP) in 2023 and is vital to ensuring livelihoods, food, and nutritional security for numerous households, including those from disadvantaged backgrounds. The SSF sub-sector accounts for at least 90 per cent of the production, but their operating costs are increasing due to overexploited waters. Effective and sustainable management could enhance SSF's economic, social, and environmental performance.

There is a notable discrepancy in poverty reduction between the national average and the coastal areas. While the number of people living in extreme poverty in Indonesia decreased from 16 million in 2011 to 5.5 million in 2022, extreme poverty in coastal areas increased from 2.1 million to 3.9 million over the same period. In addition, the total number of people living in poverty in coastal regions surged from 7.8 million in 2011 to 17.7 million in 2022.

2.2 Recognition and protection of fisherfolk tenure rights

Both the central and local governments formulate policy regarding marine spatial planning, fisheries zoning, and the protection and empowerment of fisherfolk, aquaculture, and salt farmers. They follow their respective jurisdictional boundaries. At the central level, there is the Ministry of Maritime Affairs and Fisheries (MoMAF); while at the local level is the respective department of fisheries unit. The Ministry of Agrarian Affairs and Spatial Planning maintains a presence in several regions and plays a role in land redistribution for communities, including fisherfolk and aquaculture. The Agrarian Reform Task Force, a cross-ministerial body, is mandated with facilitating land redistribution; the president heads it at the national level and the respective regional head leads it at the local level.

The basis for controlling national marine resources is the 1945 constitution. Its article 25 on 'The State Territory' states that "the Unitary State of the Republic of Indonesia is an archipelagic state characterised by the archipelago with its territory, boundaries, and rights as determined by the law." Control over the marine areas was declared through the Djuanda Declaration of December 13, 1957. The cabinet made this announcement in Jakarta, emphasising the nation's sovereignty over its maritime territories. The government declared that "all waters around, between and connecting islands or parts of islands included in the mainland of the Republic of Indonesia, regardless of their size or width, are natural parts of the mainland territory of the Republic of Indonesia and thus form part of the national waters which are under the absolute sovereignty of the Republic of Indonesia. Peaceful traffic in these inland waters for foreign vessels is guaranteed as long as and only if it does not conflict with/interfere with the sovereignty and safety of the Indonesian State."

This was confirmed by Law Number 4 PRP of 1960 (Government Regulation of The Republic of Indonesia In Replacement of Law Number 4 of 1960 Concerning Indonesian Waters), later replaced by Law Number 6 of 1996 (Law of The Republic of Indonesia Number 6 of 1996 Concerning Indonesian Waters). As well, the government issued Law Number 1/1973 (Law of The Republic of Indonesia Number 1 of 1973 concerning The Indonesian Continental Shelf), later replaced by Law of The Republic of Indonesia Number 16 of 2023 concerning The Continent Shelf; Law Number 5/1983 (Law of The Republic of Indonesia Number 5 of 1983 concerning the Indonesian Exclusive Economic Zone; and Law Number 17/1985 Law of The Republic of Indonesia Number 17 of 1985 Concerning Ratification of The United Nations Convention on The Law of The Sea (UNCLOS). UNCLOS holds immense importance for Indonesia since it is where the concept of an archipelagic state was accepted.

Indonesia's marine spatial planning encompasses the Maritime Areas. These include: (i) internal waters in the form of inland seas; (ii) archipelagic waters; and (iii) territorial sea. The jurisdictional areas encompass three elements: additional zones; exclusive economic zone (EEZ); and the continental shelf. SSF mostly operate in inland waters, especially in coastal areas and around small islands. Indonesian legislation has regulated the social grouping of fishers based on tenure aspects (see Table 1).

Table 1. Social groups of fishers and working communities in coastal villages

No	Tenure Aspect	Fisherfolk Social Group	Legal basis
1	Capital/Ship/Craft/ Land Ownership	• Owner fisher is a person or legal entity with any rights in control over a ship/craft used in the fishing business and fishing gear • Farmer fishers are people who, as a unit, provide their energy to participate in sea fishing efforts • The owner of a pond is a person or a legal entity with any rights over a pond • Pond aquaculturists are people who actively work towards the maintenance of inland fish based on a profit-sharing agreement entered into with the pond owner • Fisheries entrepreneurs	• Law No. 16 of 1964 on Fishery Profit Sharing • Law Number 1 of 2014, which amended Law Number 27 of 2007, regarding the Management of Coastal Areas and Small Islands
2	Livelihood	• Fish farmer is a person earning his livelihood from fish farming • Fisherfolk are people whose livelihood is fishing • Small-scale fishers are people whose livelihood is catching fish to fulfill their daily needs using a fishing craft with a maximum size of 5 gross tonnes (GT) • Aquaculture farmer is a person whose means of livelihood is aquaculture • Sall-scale aquaculture farmers are people whose means of livelihood is aquaculture to meet their daily needs	• Law Number 9 of 1985 on Fisheries • Law Number 45 of 2009, which amended Law Number 31 of 2004 about fisheries
3	Craft capacity	• Small-scale fishers are people whose livelihood is catching fish to fulfil their daily needs using a fishing craft with a maximum size of 5 GT • Traditional fishers are those who use craft without engines; carry on fishing activities from generation to generation; have a fixed fishing area, and fish to meet their daily needs • Modern fishers	• Law Number 45 of 2009, which amended Law Number 31 of 2004 about fisheries • Law Number 1 of 2014, which amended Law Number 27 of 2007, regarding the Management of Coastal Areas and Small Islands
4	Territory	• The Customary Law community is a group of people who have been living in certain geographic areas for generations in the Unitary State of the Republic of Indonesia because of ties to ancestral origins, strong ties to land, territory, natural resources, possessing customary governance institutions, and customary law systems in their customary territories in accordance with statutory provisions • Local communities are groups of people who carry out their daily lives in accordance with customs that have been recognised as generally accepted values, but who are not fully dependent on certain coastal and small islands resources • Traditional communities are fishing communities whose traditional rights are still recognised when carrying out fishing activities or other legal activities in certain areas within archipelagic waters in accordance with principles of the international law of the sea • Traditional fishers use craft without engines that have been passed down from generation to generation, have fixed fishing grounds, and fish to meet their daily needs	• Law Number 1 of 2014, which amended Law Number 27 of 2007, regarding the Management of Coastal Areas and Small Islands

Based on social groups (see Table 1), Law of The Republic of Indonesia Number 7 of 2016 (Law No. 7/2016) concerning the Protection and Empowerment of Fishermen, Fish Farmers and Salt Farmers classifies fishers and coastal rural communities as protected subjects. It covers:

1. **Fishers:**
    a. Small-scale fishers
    b. Traditional fishers
    c. Labour fishers
    d. Owner fishers who own fishing craft, either in one unit or in a cumulative capacity, of more than 10 gross tonnage (GT)—but only up to 60 GT

2. **Aquaculture farmers:**
    e. Small-scale aquaculture farmers
    f. Labour for aquaculture
    g. Aquaculture land owners

3. **Small-scale aquaculture is defined by the following criteria:**
    h. Using simple technology
    i. Conduct aquaculture within the following land usage areas:
        - Freshwater aquaculture business for activities: fish hatchery with a maximum area of 0.75 hectare; and fish enlargement (the process of growing fish from juvenile to market size) in a maximum area of 2 hectares
        - Brackish water aquaculture business for activities: fish hatchery with a maximum area of 0.5 hectare; and fish enlargement in a maximum area of 5 hectares
        - Seawater aquaculture business for activities: fish hatchery with a maximum area of 0.5 hectare; fish enlargement in a maximum area of 2 hectares

4. **Aquaculture land owners are defined by the following criteria:**
    j. Using simple technology or semi-intensive technology
    k. Have rights or permits over the land for the following uses:
        - Freshwater aquaculture business for activities: fish hatcheries of more than 0.75 hectare up to 5 hectares; and fish enlargement in more than 2 hectares up to 5 hectares
        - Brackish water aquaculture business for activities: fish hatchery of more than 0.5 hectare up to 5 hectares; and fish enlargement in more than 5 hectares up to 15 hectares
        - Seawater aquaculture business for activities: fish hatchery of more than 0.5 hectare up to 5 hectares; and fish enlargement in more than 2 hectares up to 5 hectares

5. **Salt Farmers:**
    l. Small-scale salt farmers
    m. Salt pond labour
    n. Owners of salt ponds with land more than 5 hectares up to 15 hectares

In fisheries policy, through Law of The Republic of Indonesia Number 45 of 2009 Concerning Amendments to Law Number 31 of 2004 Concerning Fisheries (Law no. 45/2009, amending Law no. 31/2004), a number of affirmative measures were enshrined for small-scale fishers. These include the right to catch and culture throughout Indonesia's fish

Fish landing site in Gresik, East Java, Indonesia, by Miftahul Khausar/KNTI

management areas; exemption from paying fishery levies or fees typically required for fishing activities; and exemption from the obligation to comply with certain provisions of the fishery monitoring system. The latter exemption means they do not need to obtain permits such as SIUP (Permit for Fishery Business), SIPI (Permit for Fishing), and SIKPI (Permit for Transporting Fish) that are mandatory for larger fishing operations. These exemptions are aimed at supporting and facilitating the activities of small-scale fishers, recognising their unique needs and challenges, and reducing the regulatory burdens they face. By providing these affirmative measures, the government seeks to protect and promote the livelihoods of SSF communities.

Likewise, indigenous peoples receive affirmative policies through Law of The Republic of Indonesia Number 1 of 2014 Concerning Amendment to Law Number 27 of 2007 Concerning Management of Coastal Areas and Small Islands (Law no. 1/2014, amending Law no. 27/2007). These include the exemption from the obligation to obtain location permits and management permits when conducting activities within their customary territories. They also have the right to propose the designation of their traditional fishing areas and expect the recognition of their customary community areas to be included in the RZWP-3-K (Zonation Plan for Coastal Areas and Small Islands, a spatial planning document that regulates the use and management of coastal and small island resources). This allows indigenous communities to carry out coastal and small island resource management activities based on their applicable customary laws and practices. These affirmative policies acknowledge the special status and rights of indigenous peoples in relation to their customary territories and traditional resource management practices. By providing exemptions and avenues for their participation in the zonation planning process, the government aims to protect and empower indigenous communities in the governance of coastal areas and small islands.

Apart from fisheries management areas and coastal waters, tenure recognition is also given to land rights. Under the 2016 Law on the Protection and Empowerment of Fisherfolk, Fish Farmers, and Salt Farmers, the central government and local governments are obliged to provide infrastructure for fishery and salt farming in the form of land for aquaculture and salt farmers. Presidential Decree No. 86 of 2018 on Agrarian Reform, states that one of the land objects or parcels covered under the agrarian reform programme is 'Tanah Timbul (aanslibbing)', a term referring to the 'land accretion' process by which sediment deposits emerge or become visible as land formations in coastal waters, such as those near beaches, rivers, and lakes. These accretions often occur near the living and working areas of coastal and fishing communities. Their inclusion in the agrarian reform programme recognises the potential for these emerging land accretions to be allocated to, and utilised by, fishers and coastal communities who derive their livelihood from these areas. The government aims to provide opportunities for these communities to secure land rights and access to these coastal resources, thereby supporting their socio-economic well-being and ensuring their participation in the sustainable management of these areas. Fisherfolk settlements above ground level in water areas can also be given land rights, under a 2022 provision from the Ministry of Agrarian Affairs and Spatial Planning and the National Land Agency.

These arrangements at the central level are then followed up by measures at the regional level. To regulate the zoning of coastal water areas, North Kalimantan province has Regional Regulation No. 4 of 2018 concerning Zoning Plans for Coastal Areas and Small Islands for the 2018-2038 period. Meanwhile, East Java province has Regional Regulation No. 1 of 2018 for the same subjects and period—and the East Java Governor's Regulation No. 111 of 2018, implementing the Regional Regulation No. 1 of 2018, also applies to the province. The protection and empowerment of fisherfolk is the concern of the Regional Regulation of East Java Province No. 3 of 2016 as well as the Regional Regulation of Gresik Regency No. 1 of 2022.

Arrangements related to the protection of fisherfolk's tenure rights are included in the regional regulation on the zoning plan for coastal areas and small islands of North Kalimantan province. Its elements are as follows:

1. **Fisherfolk settlement:** Functioning as a residential environment and place of activities that support livelihood along with environmental infrastructure and facilities
2. **Capture fisheries:** Covers the pelagic fishing sub-zone; the demersal fishing sub-zone; and the pelagic-demersal fishing sub-zone. The provision is that capture fisheries zones at or under two nautical miles from the lowest low tide coastline are prioritised for SSF
3. **Marine aquaculture:** Its provisions are:
    a. Small-scale marine aquaculture using methods, tools, and technology that do not damage the ecosystem in coastal areas and small islands
    b. Small-scale fishing activities when there is no aquaculture activity
    c. Activities of non-fishing communities that do not have access to develop marine aquaculture
    d. Marine aquaculture activities using traditional and semi-intensive technology
    e. Aquaculture activities using floating net cages

The regional regulation for coastal waters and small islands of East Java province, related

to the protection of fisherfolk's tenure rights, covers the capture fisheries zone, along with a pelagic fisheries sub-zone and a pelagic-demersal fisheries sub-zone. The development direction is that fishing activities need to pay attention to traditional fishing areas. Although the two regional regulations mentioned above provide affirmative policies for traditional fishers, only East Java province regulates data collection. However, North Kalimantan has more priority policies to protect the tenure of SSF, small-scale aquaculture, and local communities as compared to East Java, which does so only in the capture fisheries zone; it relies only on the phrase "paying attention to traditional fishing areas". In contrast, East Java has a regional regulation on the protection of SSF communities and aquaculture farmers, while North Kalimantan does not have such an instrument. By corollary, Tarakan City lacks comparable protection of SSF and aquaculture farmers. East Java's norms apply to Gresik Regency, which has a Regional Regulation on the Protection and Empowerment of Gresik fisherfolk (Regulation No. 1/2022). This protects SSF and fisher families engaged in processing and marketing.

Despite the protective regulatory framework in East Java, the implementation and enforcement of such measures remain a challenge. In both Tarakan and Gresik, the respective local governments have struggled to fully protect the tenure rights of fisherfolk. The mere existence of a legal framework does not guarantee its effective application on the ground. The lack of comprehensive protection for fishers' tenure rights in these areas underscores the need for stronger implementation mechanisms, increased government capacity, and more effective stakeholder engagement to translate legal provisions into tangible benefits. Addressing these gaps is crucial to ensure that the livelihoods and access rights of fisherfolk are secured and that they can continue to sustainably manage and benefit from the coastal resources upon which they depend.

2.3 Elements of tenure

Based on the realities of life in coastal rural communities, and according to legal norms, elements of fishers' tenure extend to territorial waters and coastal areas. In territorial waters, capture fisheries areas include zones determined by the government and traditional fisheries areas, craft, fishing gear, fish species caught or cultured, and fishery marketing. The corresponding elements in coastal areas include marine aquaculture zones, fishing bases, fisherfolk settlements, processing, marketing, and regional regulations related to fisheries.

The tenure dynamics of fishers are influenced by fishing patterns that are a complex interaction of the number of working hours and days, fishing season and lean season, and the type of fish to be caught. This impacts not only vessel management and logistics (like food, clean water and fuel), but also the number of human resources involved both in the context of fisherfolk's families and crew members (aquaculture farmers). Additionally, the interaction that influences the tenure dynamics of fisherfolk is their access to land rights for production and living. These patterns are threatened when the timing of fishing becomes more unpredictable. This can be due to climate change; or the disruption of fishing zones by competition for fishing involving fishing gear and the aquaculture industry, which damages the ecosystem; or from competition for the use of small island coastal waters by non-fishing activities. These factors have a damaging impact on fishing gear and fishery resources, besides endangering the lives of fishers.

Having recognised fisherfolk's rights, the government is obliged to protect them; it is

responsible for their fulfilment; for quashing any threats to the security of tenure rights. This must be in accordance with the social conditions faced by SSF, including fishworkers and fishing labourers, as well as small aquaculture farmers. Such measures must not be limited to fishing and fish farming zones, but also extend to healthy fisherfolk settlements; provision of clean water and healthy sanitation; access to services pertaining to health, education, finance and markets, as well as protection of land rights. Put together, it should result in a progressive realisation of the protection and fulfilment of human rights—especially economic, social and cultural rights—in the areas of right to work and right to food. For their part, all fishers and fishworkers must participate in the framework of promoting and defending the tenure rights. They must collectively identify, inventory and map their tenure rights. Thereafter, they can submit claims to tenure rights, share experiences, and defend and promote tenure rights.

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3. Tenure insecurity

3.1 Traditional patterns of small-scale fisheries

In the city of Tarakan and Gresik district, the coastal waters are a traditional area for both SSF and aquaculture farmers. Due to a lack of capital, they end up working as sharecropper fishers or wage labourers working as crew (ABK) for shipowners. Traditionally, they set times and read the seasons for fishing in the sea with non-motorised craft and tow nets. There are also craft equipped with engines and machines to tow nets that run on fuel oil (BBM). Fish catches are sold to collectors and processing businesses, which are the primary employers of women fishworkers.

SSF live in the coastal areas, allowing the fishing craft to be brought close to their dwellings. In the Lingkas Ujung village of Tarakan, fisherfolk live above the water surface, whereas in the Gumeng village of Gresik, the settlements are located on the riverbank. Their traditional customs mean these rural communities have to compete for their living spaces with large-scale businesses engaged in various activities including fisheries, mining and tourism.

Fish landing site at Tarakan, North Kalimantan, Indonesia, by Miftahul Khausar/KNTI

3.2 Minimum living income and sources of income

Communities dependent on fishing include SSF, fishworkers, aquaculture farmers, and fishery product processors. The people surveyed in this case study were asked whether they earned a minimum monthly living income that allowed them to meet household needs and provide their family with education and healthcare, while keeping the fishing business running. Surveys in Tarakan City and Gresik regency showed that up to 96.7 per cent of the respondents had been in the fishing business for more than one year. Over an average fishing season, 66.7 per cent of fisherfolk responded that they earn a "good" income, while 10 per cent said they are able to net a "very good" return—with 23.3 per cent finding their income inadequate (see Figure 3).

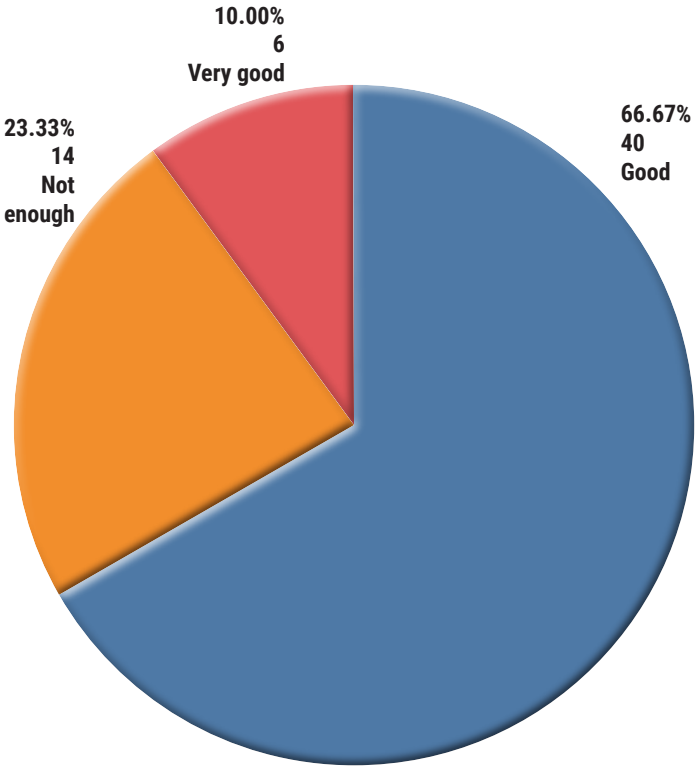

Figure 3. Percentage of respondents' income over an average season

During the lean season, however, respondents experienced significant changes in their minimum living income: more than half (51.7 per cent) of the fishers surveyed reported that their income was inadequate, while 46.7 per cent of the respondents felt their income was very insufficient (see Figure. 4). Only one individual reported "good" income during the lean fishing period, while most could not earn a minimum living income to cover household and fishing expenses. An important finding from the surveys is that 65 per cent—about two-thirds of the respondents—do not have alternative sources of income during either the average fishing season, or to tide over the lean season. Some respondents did report alternative sources of employment (or side jobs). For example, 15 per cent of the respondents took up trading and 11.7 per cent were engaged as labourers. The rest opted for other jobs such as driving, herding animals, among others.

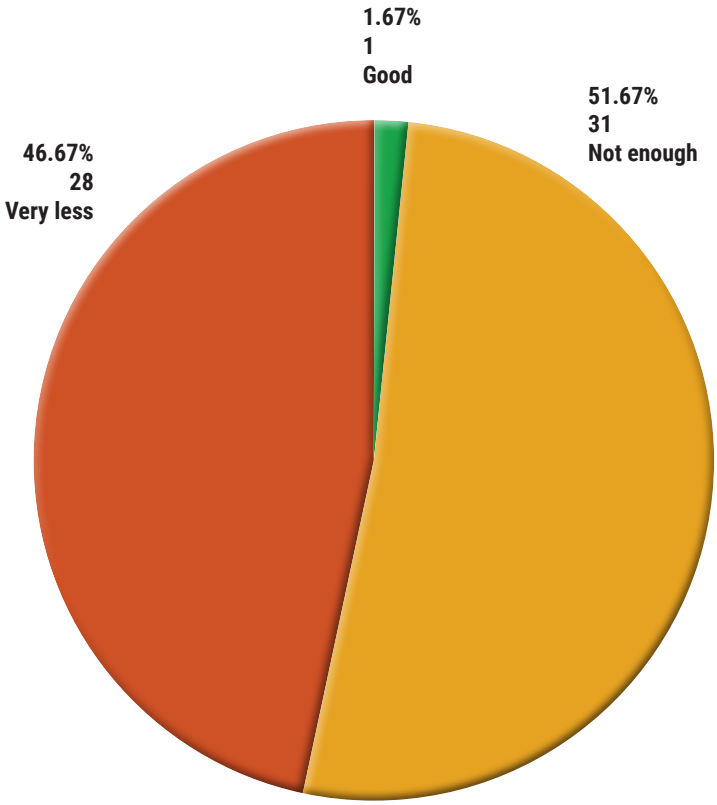

Figure 4. Percentage of respondents' income during lean season

3.3 Competition in fishing gear

In Tarakan City, the fishing fleet for small fishers comprises craft with 5 GT capacity, which are run by three member crews. Craft of 10 GT capacity need additional manpower—from fishers and labourers. The larger craft are equipped with fishing gear in the form of nets, plastic bottles, weights, and engines. Fishing craft of 10 GT or more use fishing gear called the Kurau trawl or 'Pukat Kurau'; it is used to catch 'Kurau' (threadfin fish). These nets are longer than 500 metres. The trawl used by small-scale fishers and sharecroppers does not damage the environment; the bottom of Tarakan's coastal waters is soil, not coral reefs. The trawl nets are damaged upon hitting corals. However, the use of longline trawls by large ships to capture jellyfish has led to concerns for small-scale fishers. These large-scale operations have great fishing capacity, using extensive gear. They encroach upon the traditional fishing grounds of local fishers. As a result, fishing zones available for small-scale fishers have diminished significantly, making it increasingly difficult for them to access productive fishing areas.

The two competing groups are now embroiled in conflict. The fishing community on Bunyu island in North Kalimantan have prevented Pukat Kurau vessels with nets more than 500 metres from catching fish two miles from the shoreline; they hold that such craft violate MoMAF regulations. The ministry's Regulation Number 18/2021 states that fishing gear above 500 metres may not operate closer than two miles from the coast for reasons of sustainability and fish preservation. Pukat Kurau operators reach beyond the two-mile boundary chasing the Kurau fish in coastal waters; they contend that the fish are increasingly difficult to find at sea. However, the Kurau fish is located on the edge of the fishing zones, not in the middle of the sea. The use of longline trawls for jellyfish has also caused the fishing zone to narrow.

Gresik has also seen its share of clashes over competing interests. Here, mini-trawls used by fishers from Lamongan regency in East Java often collide with small-scale fishers using traditional fishing gear like Jarik (gillnet) or Bubu (trap). In addition, fishers build wooden structures in coastal waters, deploying fishing gear called Bagan Catch or Plow: a type of lift net that uses a floating platform, nets and lights to attract fish, squids and shrimps. As a method of light fishing, the Bagan crews work from midnight until sunrise using light aids to attract the fish. However, the passage of mini-trawls causes many fish to flee the Bagan area, significantly impacting the local fishing grounds.

The conflicts caused by the clash of traditional gear and mini-trawl fishing necessitated mediation by the authorities, with the police handling serious violations. These have created social fissures in Gresik—with some SSF actors viewing mini-trawls as a means of survival that allows them to catch enough fish to support their families, while others are opposed to them. These conflicts can be further complicated by close kinship ties among competing fishers. The police have to balance the need to protect the livelihoods of mini- trawl fishers, on the one hand, and the concerns of community members opposed to them, on the other, along with the long-term sustainability of fishery resources. Finding a solution requires a nuanced approach that can tackle complex realities.

What can balance the needs of sustainability and equity in managing mini-trawls? Open dialogue, stakeholder engagement, and collaborative decision-making processes—involving fishers, local authorities, and environmental experts—could help. By working together to find alternative livelihood options, promoting eco-friendly fishing techniques, and

establishing clear guidelines for resource use, the community can resolve such dilemmas. Small-scale fishers find themselves at a disadvantage, confronting more powerful and well-equipped large ships. Not only does this threaten their economic well-being, it also undermines the sustainable management of marine resources. The local government and relevant authorities must develop regulations that protect the rights and access of SSF to their fishing grounds—and then enforce them. This could take the form of specific zones designated for small-scale fishing, thereby regulating the activities of large-scale jellyfish trawlers, and promoting equity and sustainability. By safeguarding SSF's tenure rights and ensuring their continued access to fishing resources, the government can support the livelihoods of these communities while protecting the marine environment.

3.4 Competition in coastal waters

The coastal waters of Tarakan are traversed and visited by fishing craft, coal carriers, passenger ships, and goods transport ships. In the capture fisheries zone, non-fishery vessels are not supposed to lower anchors, which get tangled in fishing gear. When fishers cut off the anchors of a boat that gets caught in their nets, they are detained by the police on the grounds of causing damage to the environment. The fishing zone is also crossed by pontoon boats carrying mining products, causing sea pollution and posing the danger of a fishing craft crashing into a vessel carrying mining products.

The capture fisheries zone has also narrowed because small-scale farmers have set up seaweed farms, exceeding the marine aquaculture zone set by the regional government. Prior to 2009, seaweed farming was not promoted or developed due to the coastal conditions of Tarakan, which is characterised by high surf and strong currents that damage the stakes that anchor the seaweed seedlings. Then, positive results from seaweed farming trials encouraged fishers to transition to small-scale seaweed farming, particularly in the Amal beach area. However, the farmers did not follow zoning rules issued by the government—according to Article 7 (paragraph 1) of MoMAF Regulation 18/2010, seaweed farming is only permitted 50-400 meters away from the lowest tide mark. Farm encroachments—in addition to the development of a beach tourism project—resulted in obstructions to the traditional water ways used by fishermen to access the beach. This was resolved as a result of advocacy by KNTI.

Meanwhile, in coastal Gresik, the competition between mini-trawling and traditional fishing gear is further complicated by drilling for oil and natural gas. These activities can eliminate fishery resources, especially clams and snails whose natural habitat is dry mud, which gets disturbed by drilling. The Ujungpangkah sub-district along the Gresik coast has a port and buildings for business, some of which have come up on land that was earlier under aquaculture ponds. The land was reclaimed after changes in ownership. Landfills have also damaged the beach. In addition to small-scale aquaculture, there are large-scale fish farms managed by corporations. The land from residents has been leased by investors for decades. In the Gumeng village of Gresik's Bungah sub-district, the coast is far from fishing settlements. Here, river normalisation through channeling to improve flow and capacity is needed so that the fishing craft can be close to settlements. While the coastal city of Tarakan has a small fish market with many shops, Gresik has no fish market in its coastal area, which results in collectors deciding the price of fish.

3.5 Aquaculture

In Tarakan, black tiger prawn aquaculture is quite popular, farmed largely using traditional methods—however, crop failure due to pests and unfavourable weather is quite common. In Gresik, aquaculture has increased rapidly, featuring vannamei shrimp, milkfish, or mixed species. The main problem here is the growth of intensive and semi-intensive farming of vannamei shrimp by large companies, both local and foreign. Their waste pollutes ponds owned by traditional aquaculture communities as well as the sea. One example is the coastal waters of Banyuurip village in Gresik's Ujungpangkah sub-district. Previously a centre for producing batik and dara shells, these industries are extinct because of the waste of large-scale vannamei shrimp farming businesses. This waste causes the appearance of black mud, which has a strong odour. If the waste sticks to the craft, it is difficult to clean. This blackening of the sea negatively impacts the quality and quantity of fishery species. It also impairs air quality, threatening the health of fishing communities and disrupting the activities of other SSF actors.

Waste from intensive vanname shrimp aquaculture pollutes the water and disrupts fishing in Gresik regency, Indonesia, by Miftahul Khausar /KNTI

3.6 Land rights

The small-scale fishers of Tarakan are migrants from the islands of Sulawesi and Java. After they moved here, they bought land parcels from local residents. Since these parcels were in areas affected by tides, the migrants built their settlements on stilts. The stilted houses and thoroughfares are connected to one another—as are the fish processing facilities and other businesses—with wooden and concrete bridges. The settlements have received facilities like clean water, education, places of worship, social security and subsidised fuel. However, there is no garbage service yet; waste is dumped into the water underneath the houses and work areas.

In such 'water areas', it is difficult to get a certificate of land ownership. Only 50 fishing families have certificates of land rights; ten of them are aquaculture farmers who have certificates of land rights for their ponds. There are 4.8 million fishers spread across ten areas in Tarakan City. In addition, there are overlapping claims of ownership among fishers and the Indonesian navy. In Mambirdan village, the fishers' settlement overlaps with a mangrove forest conservation area, so fishers cannot split the certificate of land rights. However, their settlements fall in the residential zone in the Lingkas Ujung sub-district, Mambirdan sub-district and East Tarakan District.

3.7 Labour fisherfolk

SSF include tenant fishers or labourers who work as crew members. In Tarakan, they work on craft using the disputed Pukat Kurau fishing gear. In Gresik, especially in Banyuurip village, fishers working as ship crew (ABK) do not receive social assistance and are not part of the government's insurance programme. They miss out because the eligibility for assistance is determined through data on craft ownership.

3.8 Policy without representation

In general, fisherfolk do not get adequate information, education, or 'socialisation' regarding policies, laws, and regulations from the government. While socialisation, in a broader sense, describes the process through which individuals learn/internalise the norms, values and behaviours of their society, the term is used in this context to refer to the process of making fishers aware of and knowledgeable about the legal framework and policies that govern their activities and rights. The lack of effective communication and outreach from the government can result in unintentional violations, confusion about rights and responsibilities, and a general disconnect between policy-making and the realities on the ground. Furthermore, in the creation of laws and regulations governing fishers, the government does not provide adequate spaces or mechanisms for meaningful participation and input from the fishing communities themselves. The concerns, needs, and traditional knowledge of fishers are not effectively incorporated into policies.

To address these issues, the government should prioritise the development and implementation of comprehensive socialisation programmes that educate and inform fishers about relevant policies, laws, and regulations. These must be designed to reach fishing communities in accessible and culturally appropriate ways, taking into account their specific contexts and challenges. The government should establish and strengthen participatory mechanisms that allow fishers to actively engage in making policy. This can

include regular consultations, stakeholder forums, and opportunities for fishers to provide feedback and input on proposed laws and regulations. By fostering a more inclusive and collaborative approach, the government can ensure that the policies governing the fishing sector are informed by the realities and needs of the communities they affect.

As much as 91.7 per cent of the respondents in the survey of fishing communities in Tarakan City and Gresik Regency were not aware of any policies of the central government or local governments on protecting and empowering fishers, aquaculture farmers, and salt farmers. This is consistent with other findings, such as 86.2 per cent of respondents reporting that they have never received socialisation of rules or policies. The impact of this knowledge and rules awareness gap is serious. For example, without a clear understanding of the designated zones and their corresponding restrictions, fishers may inadvertently fish in restricted areas, leading to conflicts and legal repercussions. Another set of problems owes to the uncertainty and confusion among fishers over the restrictions on fishing gear and fishing. These are stipulated in KKP Ministerial Regulation No.18/2021 on the Placement of Fishing Gear and Fishing Aids, as well as Government Regulation No. 11/2023 about Measured Fishing. Yet another consequence is the competition among fisherfolk institutions when engaging with the government and corporations. In the absence of a unified and recognised platform to negotiate their interests, several institutions can find themselves vying for attention and resources. This causes fragmentation of representation, weakening the overall bargaining power of fishing communities.

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4. Conclusion and Recommendations

4.1 Conclusion

Although Indonesian laws and regulations have provided recognition and protection of fishers' tenure, fisherfolk have not fully accepted tenure security guarantees. This is due to the inability of regional governments to enforce zoning of coastal waters; the absence of regional legal instruments to protect and empower fishers and aquaculture farmers, as in the case of Tarakan; and the ineffectiveness of regional regulations, as observed in Gresik. Fisherfolk's tenure rights are not a priority for regional governments because of the absence of fishers' participation in the formulation of policies and zoning plans. This state of affairs has also led to discrimination against fisherfolk institutions. As well, it has created a situation wherein not all protected fisherfolk receive assistance from the government, for example, aquaculture farmers and labourers.

4.2 Recommendations

- Regional governments must facilitate meaningful participation of SSF, aquaculture farmers, and crew members in the formulation and implementation of all policies meant to protect and strengthen fisherfolk communities. For this, the regional governments must empower fisherfolk institutions, particularly the economic institutions, that represent SSF communities.
- Meanwhile, local governments should base their fisheries decisions through the lens of tenure rights. Their policies should be part of a regulatory aegis under which SSF and aquaculture farmers are both protected and enabled. The benefit of such a framework will extend to governance as well, helping authorities at various levels adjust to the peculiarities of fishers' social groups.
- As a livelihood space, the coastal waters should be zoned and designated for SSF and small-scale aquaculture farmers. Capture fisheries require a time zone, considering the mobility of fish species. Regular policy reviews are essential, particularly on the issues of restrictions on fishing gear and certain fish species.
- Fisherfolk's rights to proper housing and fish processing facilities must be protected. Their rights to land for living in coastal waters can be based on the national agrarian policy as enshrined in Act No. 5 of 1960 Concerning Basic Regulations on Agrarian Principles. Social assistance and social security schemes must be developed for climate change mitigation and adaptation. These can take the form of increased subsidies and additional skills training for SSF to increase their minimum income and diversify earning sources.

- When the government is granting concessions in the form of business permits in coastal waters, it must pay attention to SSF's tenure rights. This includes individual rights and collective rights guaranteed by the constitution, human rights instruments, and laws and regulations. They must also cover the right of passage for fishers, and the right to a healthy environment and housing. As well, conservation measures aimed at environmental preservation should account for the tenure rights of SSF.

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Annexure

Annex 1:
Voices of traditional and small-scale fishers

Tarakan City

1. "We really feel the loss because the fishing space is decreasing. We worry about the future of our livelihood which is very much dependent on the sea. Losing fishing grounds means we lose opportunities to catch fish and provide for our families."
2. "Our settlement in Tarakan remains traditional. Our houses are made of wood. We live above the sea, so we park the craft under the house. If the tide is high, we can go to sea and catch fish. If the water recedes, we cannot."
3. "We fishers with small craft are often forgotten. Our voices are not being heard regarding government policies."
4. "Our fishing gear often gets broken because of the anchor of a coal transporter. If the ship just passes it is actually not a problem; the problem occurs if the anchor is thrown in our fishing zone."
5. "We have lived in Tarakan for decades in wooden houses standing above the sea. But only 50 fishing families have certificates of land rights; and ten of them are aquaculture farmers whose ponds have obtained certificates of land rights."
6. "Small fishers like us sometimes go out to sea only for one day or even three days in a row. In the middle of the sea, at night, we are very much at risk of being hit by large ships, such as barges that cross our catchment area."
7. "Our catch is small and we are forced to sell fish at low prices to collectors. For example, the price of mackerel has not changed for decades, even though the cost of living is increasingly expensive. This is because the government does not intervene to regulate the price of fish, and no auction or fish market can assure us a fair price."
8. "Our catch pays for sustenance, for our families, for our children's schooling. Although until now it has not been enough."
9. "Currently, seaweed is purchased at very cheap rates. The per kg price has dropped dramatically from IDR 8,000 to IDR 4,000 (1 IDR = 0.000061 US $). We workers and seaweed farmers can't do anything about it."
10. "We carry out all activities—drying fish, drying clothes, unloading fish and processing seaweed—in our settlement. There is no land set aside for it."

Focus group discussion with fishers at Tarakan, North Kalimantan, Indonesia by Makinun/KNTI

Gresik Regency

1. "We fishers feel frustrated because the government never responds to our complaints. We have submitted complaints through various means, but the response has been minimal or non-existent."
2. "The majority of fishers here catch clams, some also catch small fish. This used to be the centre for batik and dara shells, but not now. One of the main reasons they went extinct is waste from the intensive and semi-intensive vannamei aquaculture that pollutes the sea."
3. "We usually use traps to catch grouper fish."
4. "We catch mussels with garid fishing gear. Each type of clam has a different garid. Because the position of the shells is different, the virgin shells are above the mud while the batik shells are 50 cm deep in the mud."
5. "Our sea has turned black from the polluting waste of intensive and semi-intensive vannamei aquaculture. We have reported it to the government, but there has been no response."
6. "Intensive and semi-intensive vannamei aquaculture waste is very smelly. It disturbs the air quality in our environment and disrupts our activities."
7. "We also process a lot of green mussels. Generally, women help with the processing."
8. "We are mostly fishers, aquaculture farmers and processors of fishery products. We carry out our activities around where we live, drying fish in empty yards."

9. “We have never received guidance from the government on how to process fish. Everybody uses traditional methods.”
10. “Our craft is small, we cannot go far.”
11. “In Gumeng Bungah of the Gresik sub-district, fishers have to cross the river before they can go out to sea. They need more fuel.”
12. “We hope the government hears our complaints, especially the problems of waste from vannamei shrimp aquaculture and steep costs of fuel.”

Focus group discussion with fishers in Gresik, Indonesia, by Makinun – KNTI Gresik

Annex 2:
Research on SSF's tenure rights

Respondent Profiles

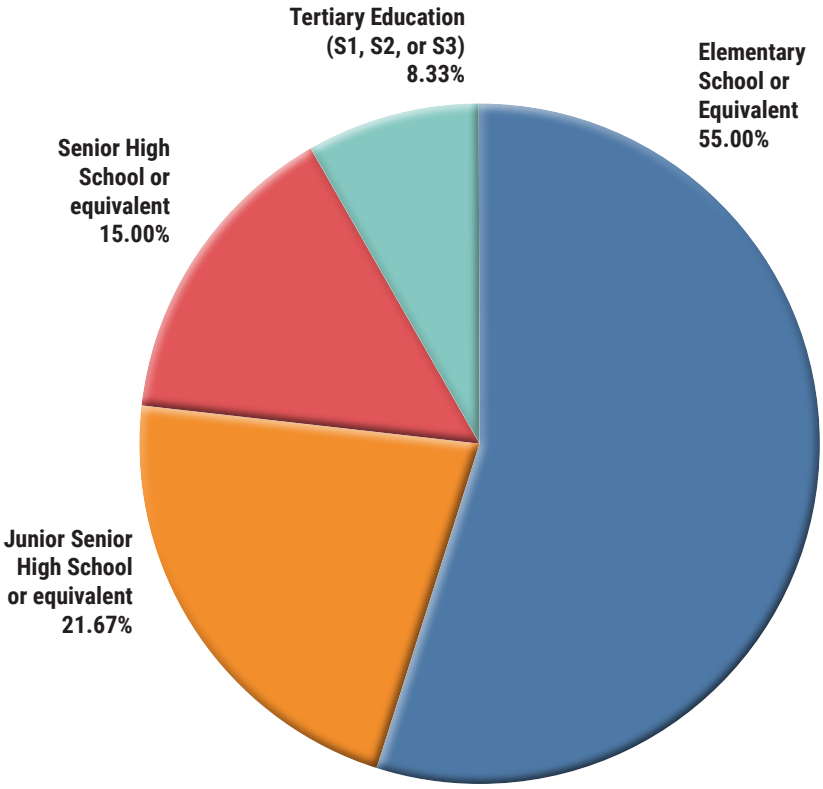

Figure 5. Percentage of highest education among fisher respondents

Age and Gender

A total of 60 respondents met the criteria for the case study, 30 each from Gresik and Tarakan. All respondents were male because women were not actively involved in fishing and aquaculture. The respondents' average age was 50 years. The youngest individual was 26 with a family and is currently active as a fisher. The survey findings (see Figure 5) show that 55 per cent of fishers in the two regions have an education equivalent to elementary school. About 21.7 per cent of the fishers are educated up to junior high school or equivalent, while 15 per cent are educated up to senior high school or equivalent. Only 8.3 per cent of fishers have obtained a tertiary education or equivalent.

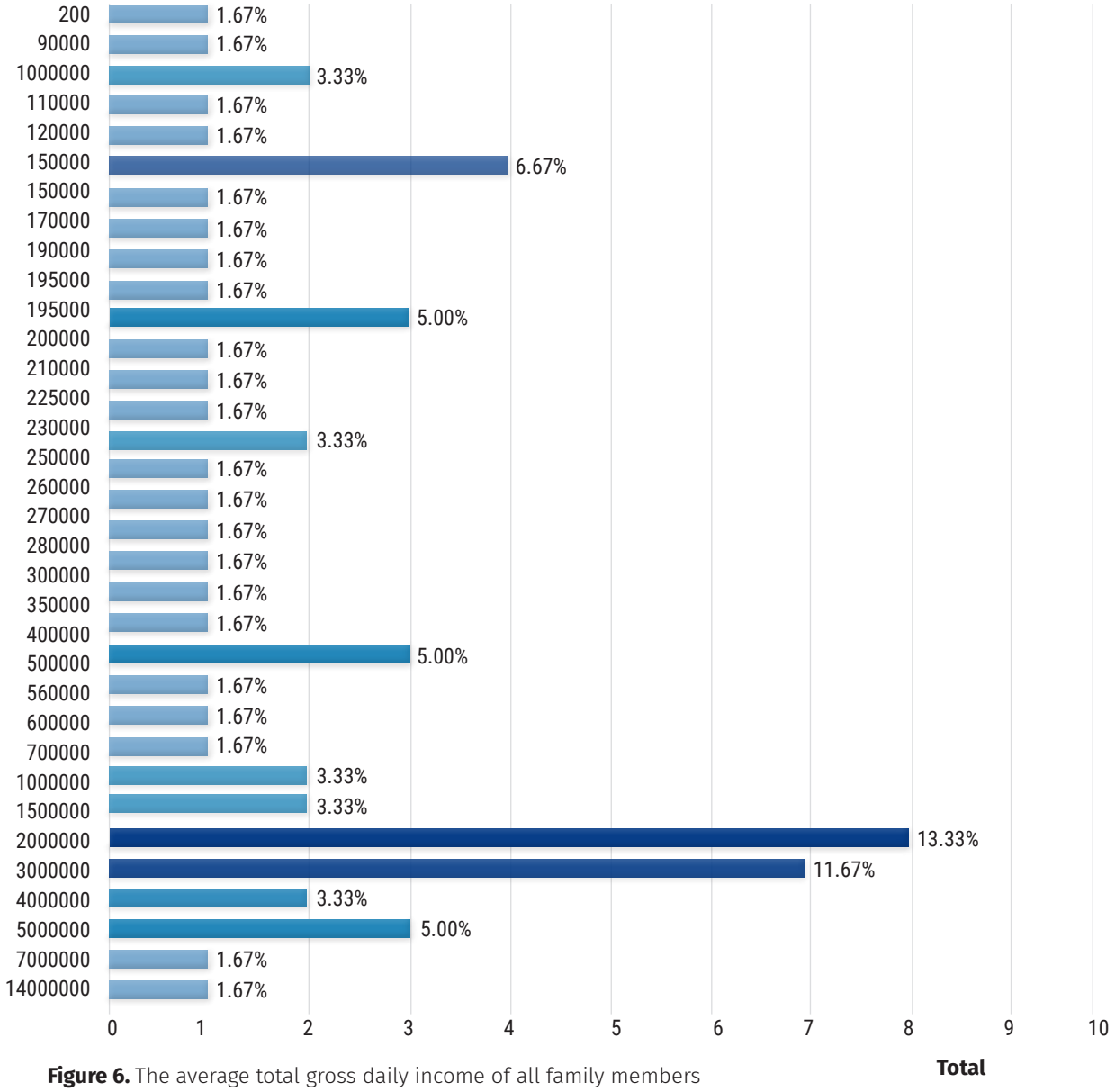

Figure 6. The average total gross daily income of all family members

Household and minimum living income

The 60 respondents reported a variety of family sizes. Just under one-third, or 19 respondents, had a family of four members. Other respondents reported having a family of seven members. This difference in family size can affect the social dynamics, the economy, and responsibilities within a fisher household, as also the family's well-being.

Based on data from the interviews, the estimated average monthly income over the past month (prior to the survey) was IDR 2 million. Eight respondents earned IDR 2 million per month, while seven earned IDR 3 million per month (see Figure 6). The income patterns varied. Some earned IDR 2 million in two weeks, or each time they went out to sea, not a monthly income like most others.

Asset Ownership

Up to 41 respondents had assets that can be encashed (see Figure 7), while the remaining 19 people did not. These assets include savings, receivables, fishing gear, houses and motorised vehicles, which can be used as collateral in difficult times or as capital to invest in business. Those who do not have such assets face economic risk in an emergency or when a business opportunity presents itself.

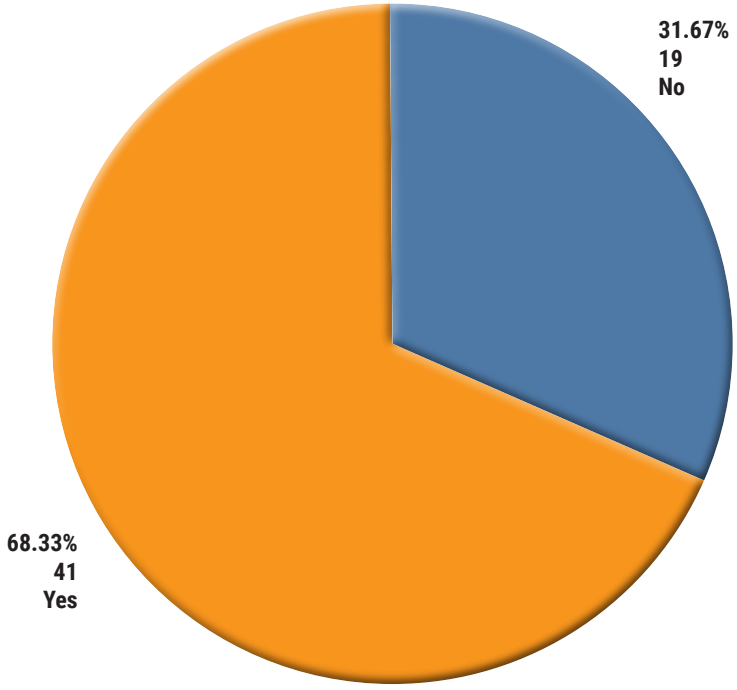

Figure 7. Percentage of respondent's asset ownership

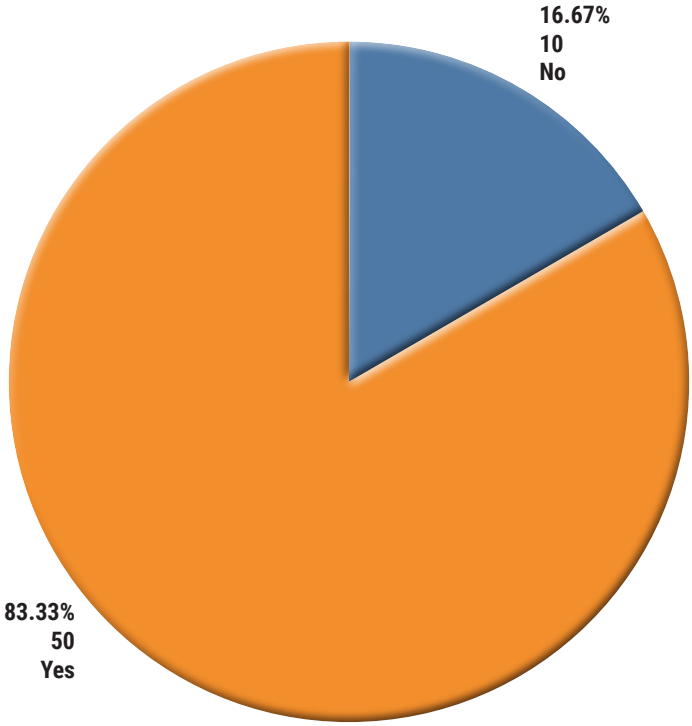

Figure 8. Percentage and number of craft ownership from respondents

Craft ownership

For traditional and small-scale fishers, the issue of control over the fishing craft is linked to the capacity and ability to carry out fishing activities. Of the 60 respondents, 50 owned their own craft, while the rest did not (see Figure 8). These individuals either rent a craft or work for someone else.

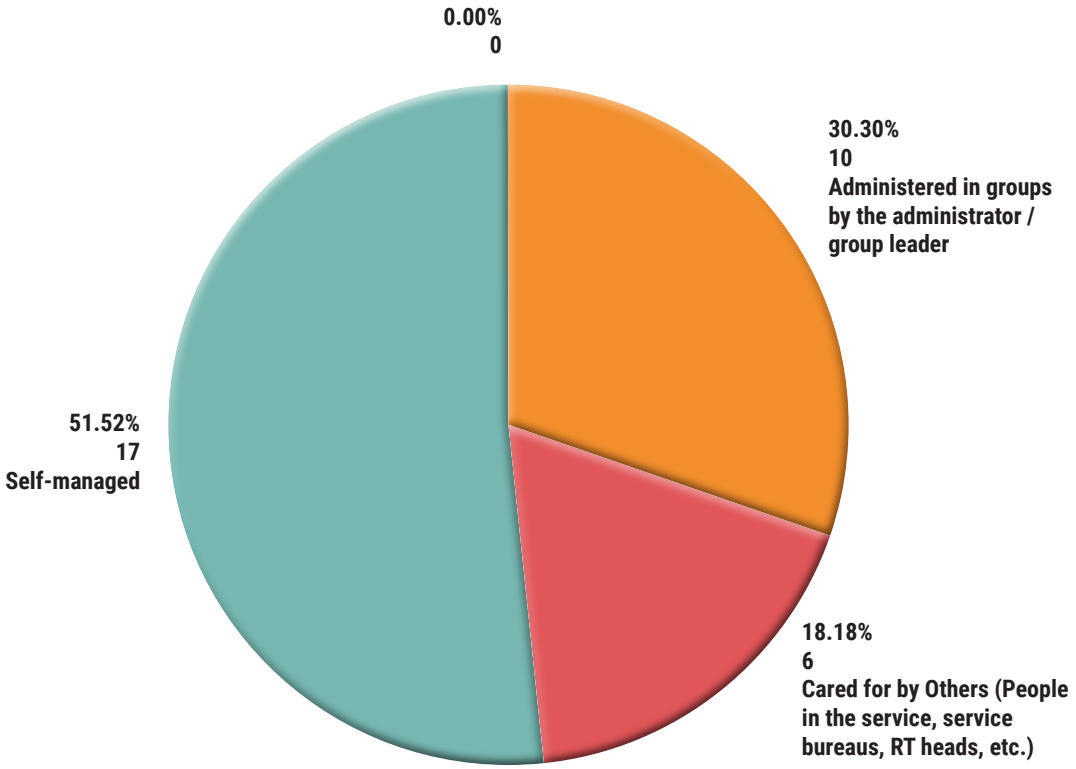

Figure 9. Percentage and total management of respondent craft

Of the 50 respondents who own their craft, 17 manage them independently, handling all the operations and maintenance themselves (see Figure 9). Another 10 manage their craft as part of a group or a cooperative with the costs being shared; this can increase operational efficiency. Of the remaining 23 craft owners, six have others manage their craft, like a service bureau or a neighbourhood head.

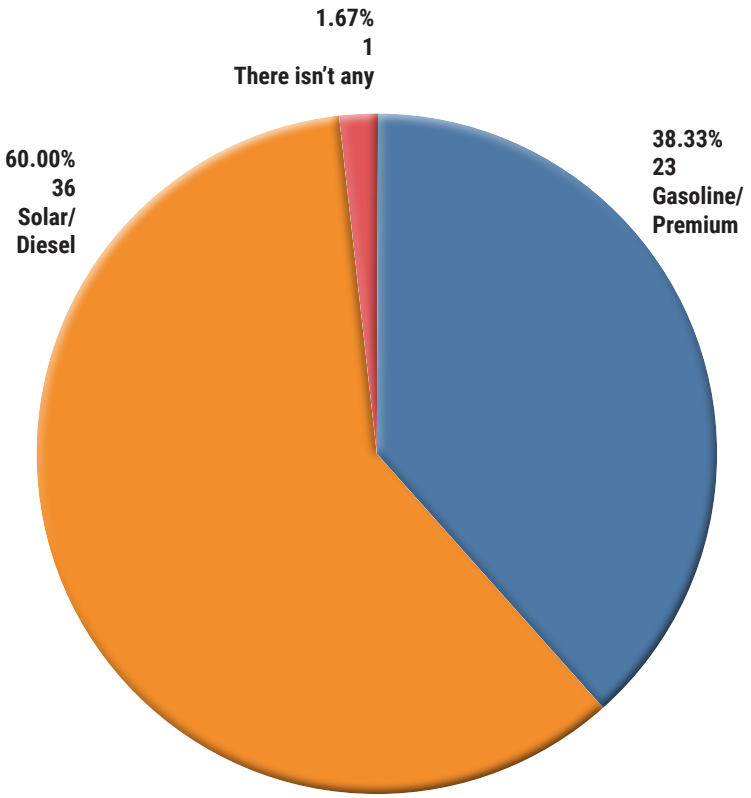

Figure 10. Percentage and total fuel used by respondents at sea

Fishing day

Respondents have very different patterns of time spent fishing. Only a few spend about five hours, while there are those who spend seven days, the longest duration recorded in the survey. The average fisher spends one day or one night fishing at sea in one outing. The majority of respondents tend to go to sea for a shorter duration and at a rapid frequency, in intervals of less than a day. Many factors can influence this: fishing location, target species, weather conditions, the season, and the level of success in previous outings. As many as 36 respondents used diesel for fuel, while 23 used gasoline or premium fuel (see Figure 10). Fishers consume an estimated average of 10 litres of fuel for one trip out to sea. With the price of diesel (at the time of the survey) at IDR 6,800 per litre, the average cost of fuel needed for one trip amounts to IDR 68,000.

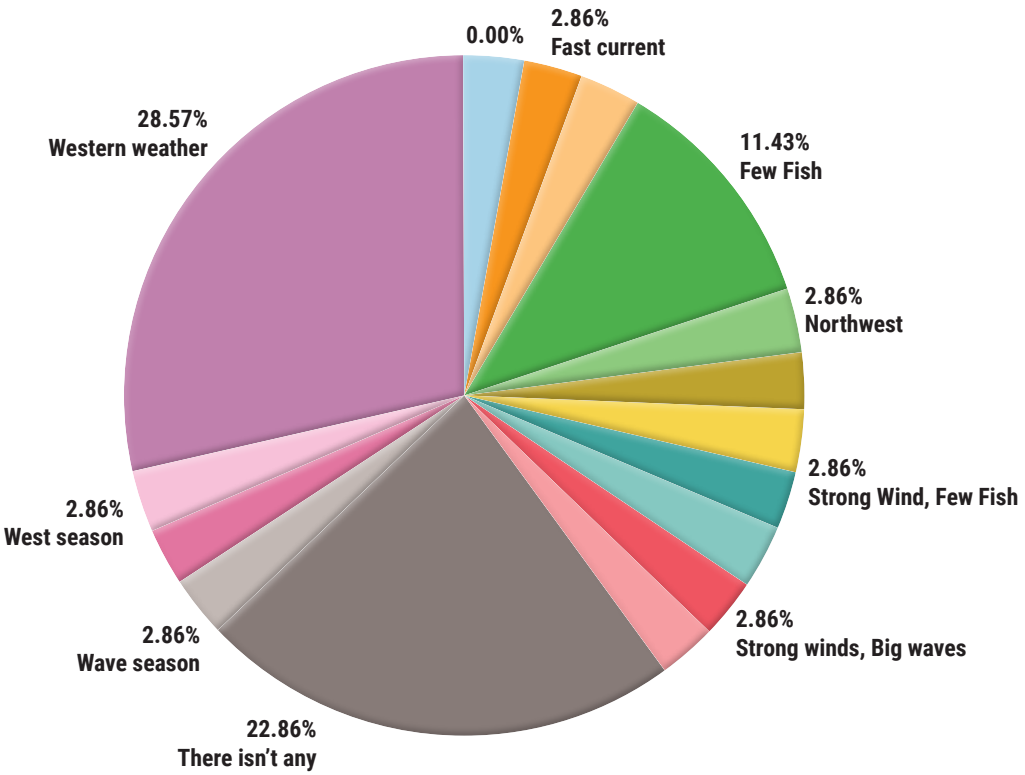

Figure 11. Percentage of weather during the lean season

Harvest and income during fishing seasons

Up to 40 respondents said the fish harvest during the normal season cycle generally went well, and they experienced an adequate level of success (see Figure 3). However, 14 respondents said that the harvest was unsatisfactory. Only six respondents said the harvest went very well on an average. During the lean season, the fish harvest was unsatisfactory for 31 respondents, while 28 respondents said it was poor or lacking (see Figure 4). Only one respondent said the harvest went well over this period. The survey included questions about alternate employment sources to tide over the lean season. Of the 60 respondents, 39 did not have a side job; nine were involved in trade; and seven worked as labourers during the lean season.

Lean seasons can be attributed to a number of reasons, including:

1. Westerly weather: The dominant westerly wind pattern in certain seasons can affect water conditions, making it more difficult to find fish (see Figure 11).
2. Low fish populations: During lean seasons, some fish species might experience reduced population, making it difficult to find enough fish.
3. Strong winds and big waves: Bad weather with strong winds and big waves can endanger the safety of fishers and hamper fishing.
4. Oceanic currents: Fast ocean currents moving to the northwest can change fish migration patterns and reduce the abundance of fish in certain areas.

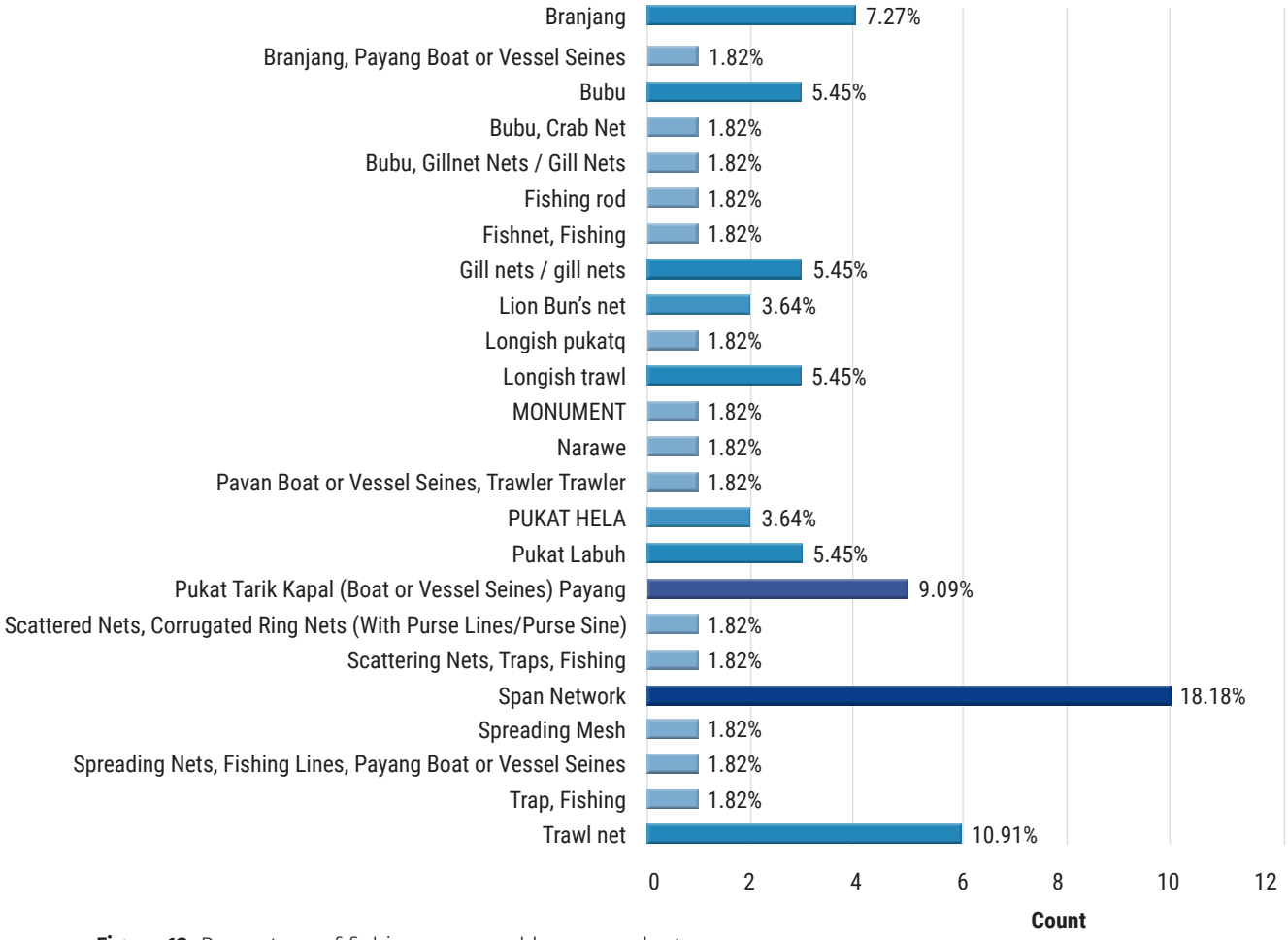

Figure 12. Percentage of fishing gear used by respondents

Fishing equipment

Span nets are the most widely used type of fishing gear (see Figure 12), with ten respondents citing them as their primary fishing gear. Trawl nets were the dominant gear for six respondents. Payang craft (craft using a traditional seine gear) and vessel seines were each named by five respondents.

Competition and conflict over gear

There was a dispute in the waters of Bunyu island; the community there forbade fishers with Kurau trawl or nets over 500 metres from catching fish on the beach. One of the reasons cited was MoMAF's Regulation No. 18/2021, which states that fishing gear over 500 metres may not operate closer than two miles from the coast for reasons of sustainability and fish preservation. But the Kurau fish is located on the edge of fishing zones, not in the middle of the sea. Furthermore, the use of longline trawls for jellyfish has caused the fishing zone to narrow.

The Tarakan City Fisheries Service sent a letter to the director-general of capture fisheries at MoMAF. But there has been no response, even though their team had gone down to research the Kurau fish catch. This arrangement is supplemented by the regulations of the ministry of environment and forestry to prevent over-fishing and pollution. It requires measured catching of fish based on quotas, as well as adaptation to climate change; it

Small-scale fisher in Gresik regency, East Java, Indonesia, by Miftahul Khausar/KNTI

subjects small-scale fishers to permit regimes. The government encourages alternative fishing businesses such as ponds. Although there is a Fisheries Vocational School, its graduates work in Japan, in Central Java and in Sulawesi. No place in Tarakan can offer the remuneration that their education commands.

The SSF of Gresik face several issues. They include:

1. Conflict over gear: There is competition and disagreement among fishers using different types of fishing gear like mini-trawl, jarik and bubu. This conflict was resolved through mediation; the police handled serious violations.
2. Problems with data collection for social assistance: In data collection, fishers who do not own a craft can lose the opportunity to get social assistance. That's because the data is usually gathered based on craft ownership.
3. Environmental damage: Oil drilling activities can pollute the mud and make it uninhabitable for clams and snails.
4. Problems with ponds: Fishers' ponds are plotted by officials, then filled in and used as a place of business, causing obstacles for traditional fishers.
5. Safety: The western monsoon in November-March can lead to dangerous sea conditions for fishers with sudden high waves and winds.
6. Conflict between mini-trawls and capture/plough fishing: Fishers' nets are often bypassed by minitrawls, leading to losses due to runaway fish.

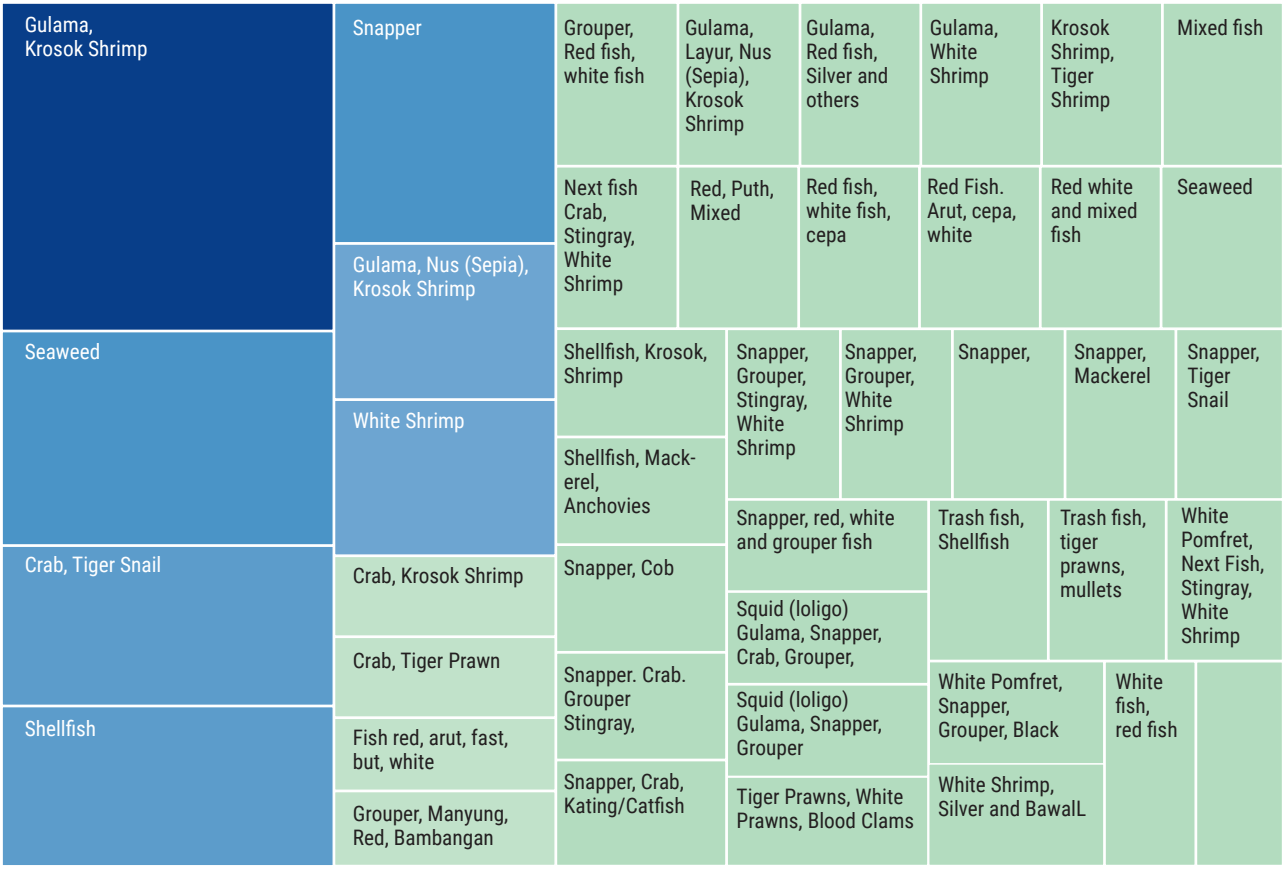

Figure 13. Type of fish caught by respondents

Fish species

The catch includes several types like shellfish, seaweed, crabs, shrimp, squid, and gulama (snapper). However, the most prominent of these catches were the gulama and krosok shrimp. Gulama very likely has high economic value and is the main target of fishing efforts. Krosok shrimp also stands out, indicating a significant fishery resource that can make an important economic contribution (see Figure 13).

The sale of fish catch brings it into the supply chain. Of the 60 respondents, 22 sell their catch to auctions at a Bakul (a place for fish auctions), while 19 sell their fish to vendors. Some sell their catch directly in the market. Then, there are those who sell to tauke or financiers, and some fishers sell directly to consumers (see Figure 14).

Nearly half of the respondents (29 out of 54) reported being able to sell all the fish they caught, while 24 can sell only three-quarters of their catch (see Figure 15). Several factors explain this variation: marketing skills, market access, weather, and type of fish caught.

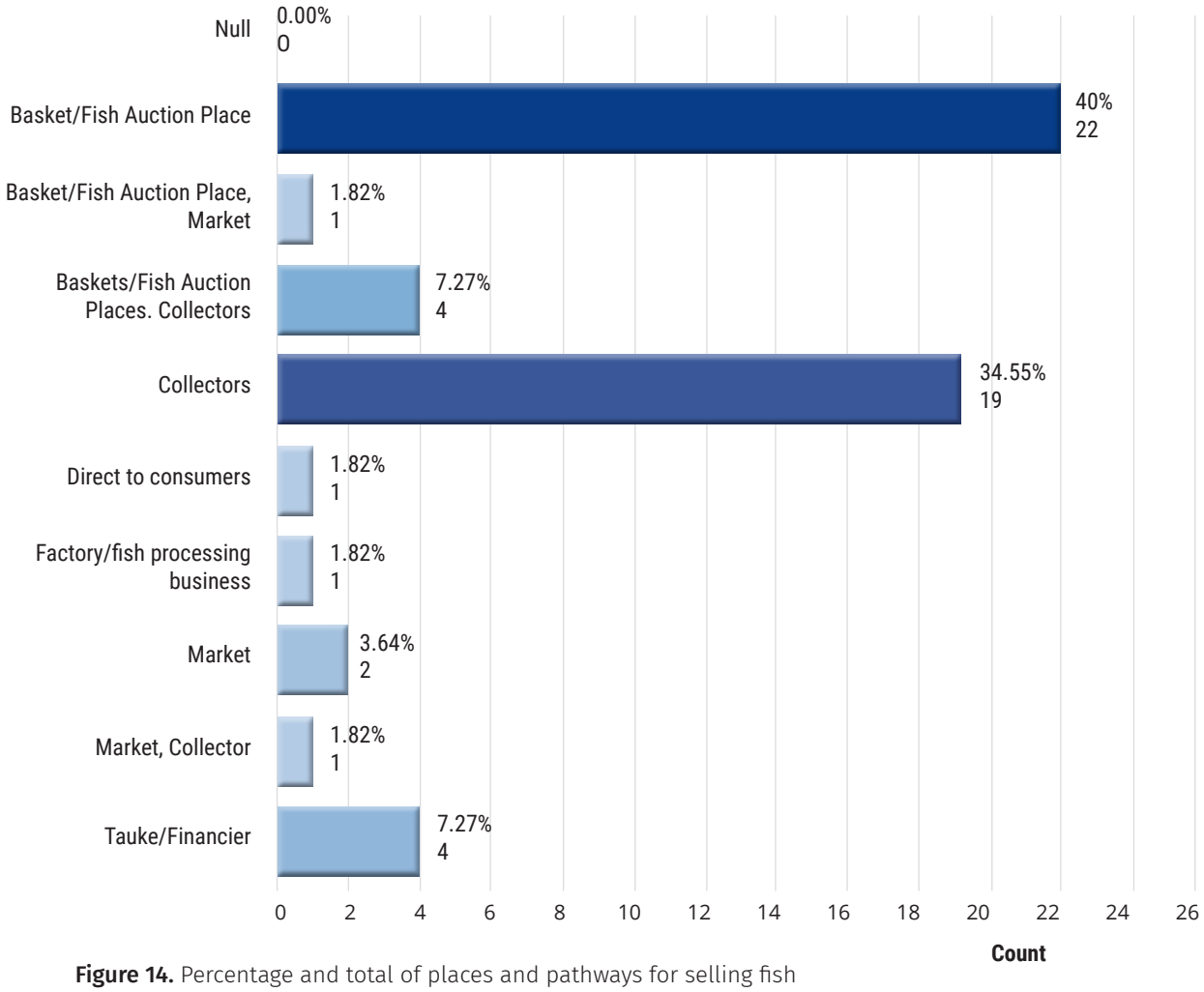

Figure 14. Percentage and total of places and pathways for selling fish

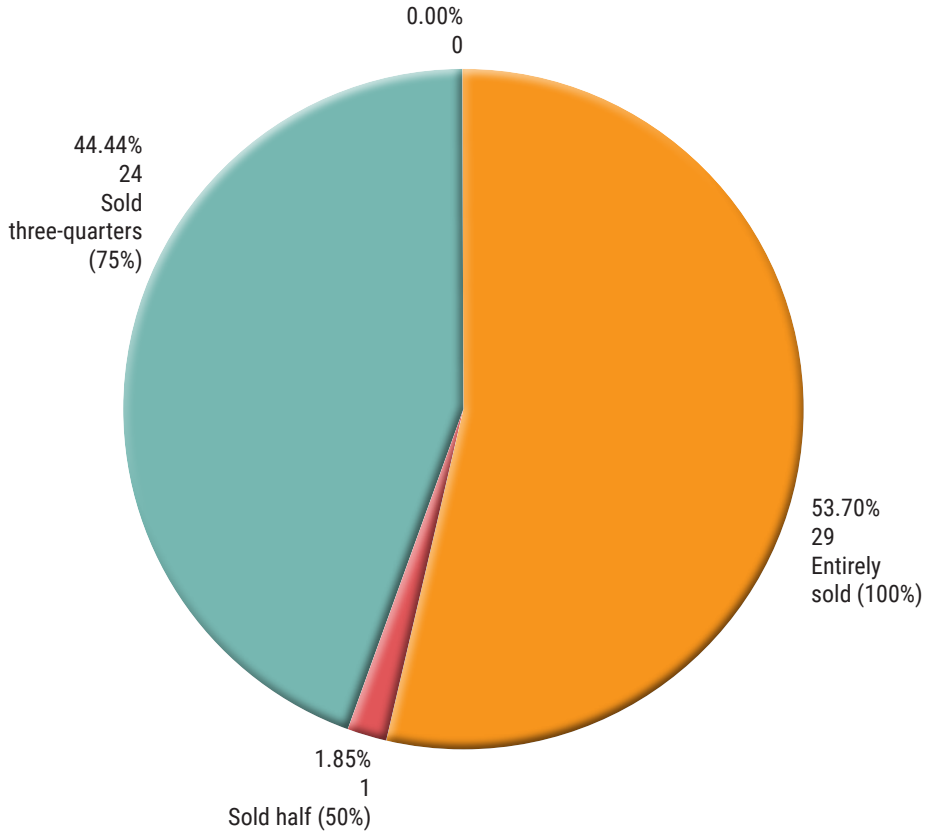

Figure 15.
Percentage of fish sold by respondents

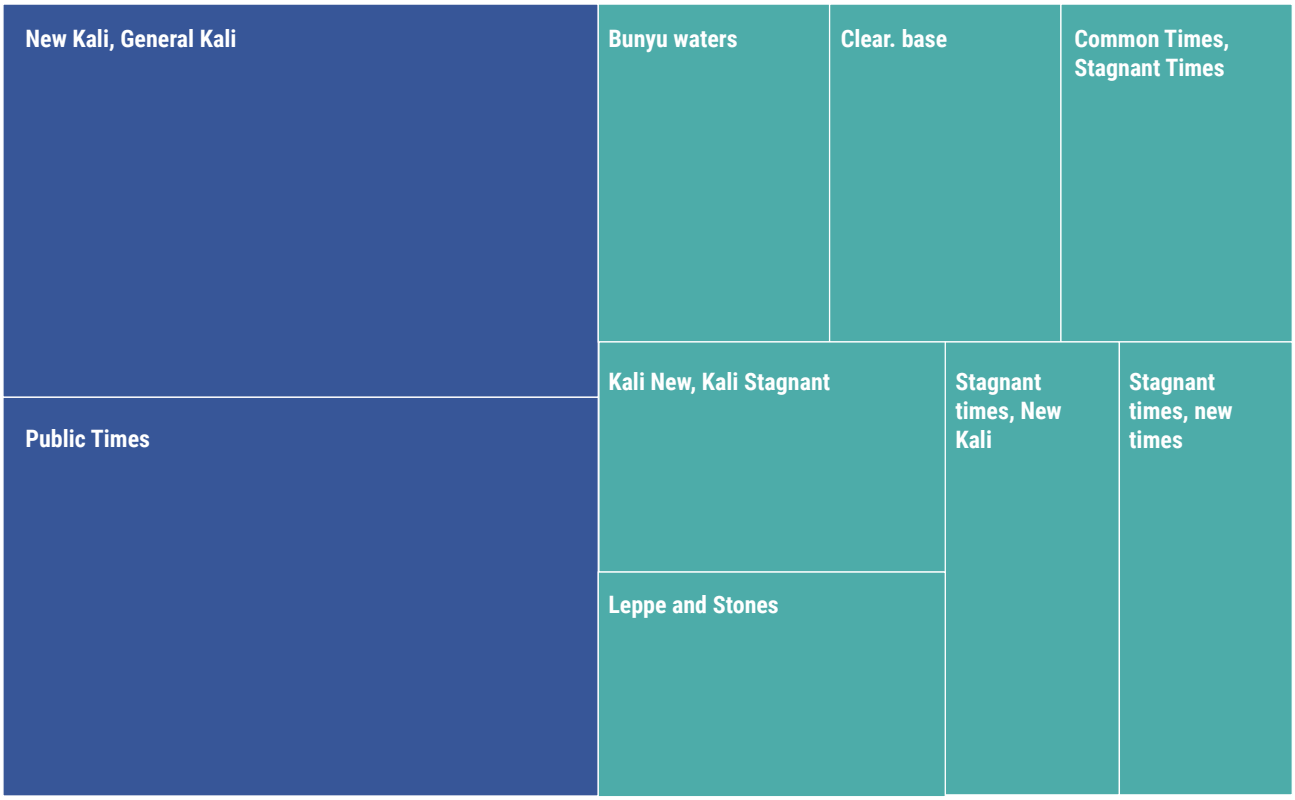

Figure 16. Fishing zone by respondent

Fishing grounds

The majority of respondents (77.8 per cent) answered that there is a special route to catch fish (see Figure 16). They stated they were looking for fish in a fixed (and unchanging) zone. Respondents had several names for such fishing grounds: new river, common river, clear, base, stagnant river, leppe, rocks, and turtle waters. Each name can reflect the unique characteristics of the zone: water conditions, common types of fish, or certain features that fishers recognise. In selecting these names, they might be relying on traditional knowledge. Experience adjusted to the ability of the craft could also lie behind the name of a fishing zone. In addition, there are fishing zones named and created by official rules. This is based on concerns of sustainable management and marine conservation. Frequently, the names of the fishing grounds under these zones are listed on GPS (Global Positioning System) devices used by fishers for navigation.

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The case study analyses the **tenure rights** of traditional and small-scale fishers in **Gresik, East Java, and Tarakan, North Kalimantan, Indonesia.** Utilising a participatory methodology, it identifies the challenges these communities face, including insufficient legal protection and environmental degradation from intensive aquaculture practices.

The findings reveal a significant disconnect between existing policies and their implementation, highlighting the urgent need for enhanced governmental recognition and protection of the rights of fishing communities.

The case study advocates for the development of comprehensive regulatory frameworks that ensure tenure security and sustainable fisheries and safeguard the livelihoods of fishing communities, thus fostering socio-economic resilience and environmental sustainability.

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