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Understanding working conditions of fishers in Indonesia

Evidence from the 2024 Survey on Decent Work in Marine Fishing

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Preface

Fishing is one of the most hazardous and physically demanding professions in the world. Fishers encounter numerous risks, not only from the natural dangers of the sea but also from the isolation of their work, which makes them especially vulnerable to violations of their fundamental rights, and poor working conditions.

Ensuring decent work for fishers remains a significant challenge worldwide, including in Indonesia. Despite a wealth of anatomical information, there is still a scarcity of comprehensive data regarding the working conditions of fishers, as well as the scale of violations of decent work and fundamental rights. Particularly difficult to measure are issues such as forced labour, trafficking and child labour – phenomena that are both illegal and often hidden due to their clandestine nature.

To address these gaps, the ILO FUNDAMENTALS Branch has developed an innovative methodology for measuring decent work in marine fishing, utilizing statistically representative surveys.

This report presents the findings of Indonesia's first-ever Survey on Decent Work in Marine Fishing, conducted by the ILO using the said methodology, together with the Research Center for Population of the National Research and Innovation Agency (PRK-BRIN). The survey results are enriched by qualitative research, including focus group discussions (FGDs), key informant interviews (KIIs), and stakeholder consultation workshops.

This report not only provides an in-depth analysis of the working conditions in the marine fishing sector in Indonesia – one of the largest fishing nations in the world with more than two million people working in the sector – but also serves as a blueprint for similar studies in other countries.

The report's analysis is based on the principles outlined in international labour standards, particularly the ILO Work in Fishing Convention, 2007 (No. 188), which addresses fishers' working conditions, and the ILO's fundamental Conventions on fundamental principles and rights at work. These include freedom of association and the effective recognition of the right to collective bargaining, the elimination of all forms of forced or compulsory labour, the abolition of child labour, the elimination of discrimination in employment and occupation and the recognition of safe and healthy working environments. Recognizing that the fundamental principles and rights at work are interrelated and mutually reinforcing, this study examines how the ILO's core instruments have been incorporated into Indonesia's legislative framework and assesses the extent to which these standards are upheld.

It is hoped that Indonesia's pioneering efforts may inspire other countries to examine their fishers' working conditions and leverage evidence-based insights to shape informed policy decisions.

The shared vision is a future of freedom at sea – where forced labour and child labour are eradicated, and decent work is a reality for all fishers worldwide. It is hoped that this report may serve as a valuable resource for stakeholders across the fishing sector who are dedicated to making this vision a reality.

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Executive summary

Indonesia is the largest archipelagic country in the world and has the fourth longest coastline. The fishing sector plays a crucial role in the country's economy, providing jobs and livelihoods for millions of citizens. In 2021, the fisheries sector contributed 2.8 per cent to Indonesia's GDP, and 2.36 million people were employed in capture marine fishing, roughly 1.3 per cent of the working population.

Marine fishing is one of the most hazardous and physically demanding professions, exposing workers to harsh weather, dangerous equipment, and the risks of piracy or unregulated waters. Fishers often endure long periods at sea in challenging conditions, facing physical exhaustion, psychological stress, and limited access to food, medical care or communication. Additionally, the isolation of fishing vessels leaves workers vulnerable to exploitation, forced labour and abuse, with little oversight or protection.

This situation has prompted the ILO to establish international labour standards aimed at improving the rights and working conditions of fishing workers. The Work in Fishing Convention, 2007 (No. 188) sets binding requirements for decent working conditions, including protections against forced labour and trafficking.

Indonesia has laws and regulations governing decent work in the fishing sector and has enhanced fundamental principles and rights at work, including combatting forced labour and child labour by ratifying relevant ILO Conventions such as the Forced Labour Convention, 1930 (No. 29); Abolition of Forced Labour Convention, 1957 (No. 105); Minimum Age Convention, 1973 (No. 138); and the Worst Forms of Child Labour Convention, 1999 (No. 182). Indonesia has made significant strides in improving fishers' welfare and ensuring fair labor practices. The Ministries of Manpower and Marine Affairs have strengthened joint inspections, enhancing enforcement and remediation efforts. A Trade Union Network now amplifies fishers' voices, and the Migrant Resource Center in Pemalang launched in 2024 offer a space for grievances. Several employers have integrated human rights into due diligence and developed a Fair Recruitment Code of Conduct.

Despite these initiatives, challenges in the fishing sector persist due to overlapping jurisdictions and difficulties in enforcing labour regulations, particularly for small-scale and distant water fishing fleets. Ratifying Convention No. 188 and 2014 Protocol to the Forced Labour Convention, 1930 (No. 29) as well as the other ILO fundamental conventions would further contribute to the process of allignment of national laws with international labour standards, strengthening efforts to improve fishers' working conditions and combat forced labour.

This report presents the findings of the 2024 ILO Survey on Decent Work in Marine Fishing, alongside the results of interviews, focus group discussions, and consultation workshops conducted by BRIN (Research Center for Population of the National Research and Innovation Agency) in collaboration with the ILO. The research focuses on key indicators of decent work for workers in marine fishing, including employment status, earnings, working hours, health and safety, social security, and the prevalence of child and forced labour. Indicators concerning decent work are built against directives from international labour standards, particularly Conventions Nos. 188, 138, and 29, as well as other ILO fundamental instruments. A discussion of current legislation offers contextual insights into legislative gaps and inconsistencies with these international standards.

The Decent Work Survey in Marine Fishing is another significant step toward promoting decent work in the sector. As the first country to undertake this survey, Indonesia is leading the way in ensuring transparency in the fishing industry, guided by the principle that what isn't measured can't be improved.

The survey is based on interviews with nearly 3,400 fishers from 18 ports, representing various types of ports nationwide. The findings reflect the perceptions of fishers interviewed in the surveyed ports regarding their working conditions.

Demographic characteristics of the marine fishing workforce

The marine fishing workforce is almost exclusively male and predominantly national – that is, Indonesian citizens – with an average age of 40 years. Young fishers are more likely to be employed on large and medium-sized vessels. On average, only one in five fishers in the selected ports holds an education higher than secondary school (17.8 per cent), with a greater proportion of workers on large and medium vessels and the lowest proportion on small vessels. Acknowledging the importance of investing in fishers' education and skills, the Indonesian Government has implemented several measures to strengthen fishers' skills. However, recent studies have underscored the need to introduce more effective vocational education programmes that cater to the specific demands of the fishing industry.

Small-scale fishing vessels often operate as a family business and typically employ small crews of family or local community members. These vessels are more likely to be operated by the owner of the vessel without a recruited crew (40 per cent) or family members engaged in the business activities (12 per cent). Fishers on medium and large vessels generally have more structured and formal employment relationships, with almost all crew members working as employees (95 and 98 per cent respectively). In both cases, however, violations of decent work standards may occur. On small fishing vessels, informal work environments, a lack of resources, outdated vessels and technologies may jeopardize working conditions. On medium and, particularly, large vessels, fishers rely heavily on their employers for financial stability. This reliance may result in fishers acceptance of unfavorable working conditions or, in extreme situations, being coerced into working.

Recruitment and migration

The survey indicated that over one-third of fishers in the selected ports (35 per cent or 32,915 fishers) migrated internally for work – moving between districts or cities, either within the same province or across provincial boundaries. The absence of international migrants is due to the relatively strict regulations regarding the employment of foreign fishing workers in Indonesia. Small vessels primarily hire local workers (94 per cent) who reside near the port. Conversely, workers tend to migrate internally to take jobs on medium and large vessels; internal migrants comprise over one-third of those working as employees on medium vessels (36 per cent) and more than two-thirds (66.2 per cent) on large vessels.

The practice of paying recruitment fees and related costs to secure job placements makes migrant workers particularly vulnerable to obtaining jobs with decent work deficits. Employers, recruiters or travel intermediaries can impose these recruitment-related fees, or in some cases, corrupt officials may also demand bribes or kickbacks. Consequently, many workers incur substantial costs during the recruitment process, which can result in debt bondage.

The ILO General Principles and Operational Guidelines for Fair Recruitment and the Definition of Recruitment Fees and Related Costs (ILO 2019) state that "no recruitment fees or related costs should be charged to, or otherwise borne by, workers or job seekers". This principle is enshrined in Convention No. 188 and the Private Employment Agencies Convention, 1997 (No. 181), not yet ratified by the Indonesian Government, and within national labour law such as Law No. 13 of 2003 on Manpower.

Despite clear national and international regulations, the survey highlights a significant gap in enforcing fair recruitment within the fishing industry in Indonesia, raising concerns about the enforcement of Law No. 13 of 2003. According to the survey, 61.5 per cent of internal migrant fishers working as employees reported incurring recruitment fees and related costs to secure employment. This practice is more frequent for fishers employed on medium vessels (70 per cent), followed by small vessels (65.5 per cent) and large vessels (54 per cent).

The survey indicated that travel costs are the most prevalent recruitment expense incurred by internal migrant fisher employees (58 per cent), followed by preparation costs (18 per cent). Preparation costs encompass expenses for necessary documents and equipment, such as fishing rods, required for the job. Only a small proportion of internal migrant fishers pay costs associated with individual or agency brokers, highlighting the widespread use of informal recruitment practices within Indonesia's fishing

sector, particularly in small and medium-sized vessels. According to the survey, a mere 2.2 per cent of migrant fishers secured their jobs through recruitment agencies or brokers. Most workers found employment through family or friends (over 73 per cent) or by directly approaching the captain.

Migrant employees must repay an equivalent of 1.7 months of their annual earnings to pay back recruitment costs (SDG indicator 10.7.1). This figure is significantly higher for smaller vessels, at approximately 9.9 months. This suggests that fishers would need to work for nearly a year solely to cover their recruitment fees and related costs. While recruitment costs and related fees are often higher among international migrants, the survey highlights that national workers, especially internal migrants, are not exempt from the vulnerability created by high recruitment costs.

Employment contract

According to ILO Convention No. 188, Article 20, vessel owners are responsible for ensuring that each fisher has a written work agreement signed by both the fisher and the fishing vessel owner or by an authorized representative of the fishing vessel owner, providing decent work and living conditions on board the vessel. The Indonesian Government requires all fishers to have a valid "Perjanjian Kerja Laut" (PKL) or Fishers' Work Agreement before starting employment on any vessel. The PKL is a formal contract between a shipowner or employer and a fisher which outlines the terms and conditions of employment for individuals working aboard vessels.

However, the survey findings reveal that only 9.3 per cent of all fishers possess written contracts. This proportion can be as low as 1.5 per cent for small vessels, which are characterized by a high degree of informality. Medium vessels perform slightly better, with 3.5 per cent of workers employed under written contracts, while large vessels demonstrate a higher level of formalization with 18.4 per cent of workers having written contracts.

The survey indicated that verbal agreements are the predominant form of employment contract across vessels of all sizes and continue to be a widespread practice in employment relationships with fishers in Indonesia. The percentage of verbal agreements is highest on large (69.6 per cent) and medium vessels (62.6 per cent), followed by small vessels (49.2 per cent).

The condition of fishers without a written or verbal agreement is concerning, as it leaves 26.3 per cent of fishers at risk of exploitation, job insecurity and unclear expectations. The prevalence of this condition is highest on small vessels, where nearly half (49.3 per cent) of the workforce lacks any agreement, reflecting high informality likely due to the prevalence of family business relationships. Medium vessels follow with 33.1 per cent of workers in this category, while large vessels have the lowest proportion at 11.6 per cent. This figure highlights a significant gap in employment practices, with fishers on small vessels being more vulnerable to risks arising from unclear and irregular working conditions.

Working time

According to ILO Convention No. 188, Article 14, working hours for fishers are defined in terms of minimum rest periods. The Convention stipulates that for fishing vessels operating for more than three days, the minimum rest period for crew members should not be less than 10 hours in any 24 hours and 77 hours over seven days. Consequently, any work exceeding 14 hours per day or 91 hours per week is classified as excessive working hours in the survey analysis. It is worth noting that the Convention allows for some temporary exceptions in cases of emergency and under the condition that the fishers receive compensation in a period of rest as soon as possible. The regulation of working hours in Indonesian legislation appears fragmented, lacking a clear and consistent direction across various legal instruments.

The survey reveals that overall, 15.8 per cent of fishers across the 18 surveyed ports worked more than 14 hours per day, while 11.3 per cent worked more than 91 hours per week. Excessive working time was most common on medium-sized vessels, where 24.1 per cent of fishers worked more than 14 hours a day, and 18.4 per cent worked over 91 hours a week. In contrast, fewer fishers reported excessive working time on large vessels, with only 6.5 per cent exceeding 14 hours a day and 8 per cent surpassing 91 hours

a week. On small vessels, 15.2 per cent of fishers worked excessive time daily, and 6.6 per cent worked excessive time weekly.

The irregular pattern of work and rest highlights the inherent complexity in assessing working time in the fishing sector, where the boundaries between working hours and rest periods are often fluid and lack a clear distinction between work and rest time. At times, rest periods may be used for work, while working hours may be spent resting, such as when waiting for fish to gather. This irregularity presents potential challenges in adhering to standardized labour regulations.

Methods of payment and amounts

Workers in the marine fishing industry in Indonesia are paid through various methods, often tailored to the specific nature of their work and the economic practices of the sector. The survey reveals that the most frequent payment method is catch-sharing, which is used to pay two-thirds of fishers (62.7 per cent). This method is used by nearly all fishers employed on small vessels (90 per cent), roughly half of those employed on medium-sized vessels (56.4 per cent) and a lower proportion of those employed on large vessels (38.1 per cent). The second most common payment method combines the share-of-catch system and performance-based bonuses. This approach is utilized to compensate 16.1 per cent of fishers, but it is more frequently employed to pay fishers working on medium (21.2 per cent) and large vessels (21.5 per cent). The third most common payment method combines a lump sum with a performance-based bonus. On average, this method is used to compensate 9.2 per cent of fishers, more frequently on large (19.1 per cent) than medium vessels (9.4 per cent) and only very rarely on small vessels (0.4 per cent).

These results reveal that small vessels rely heavily on the catch-share system as their primary payment method. In contrast, medium and large vessels are more likely to adopt diverse payment methods such as additional bonuses, lump-sum payments and fixed wages. Overall, the survey highlights employers' preference for compensating fishers through remuneration systems that enable them to share the business risk with their employees. Indeed, only 4.5 per cent of fishers in the 18 surveyed ports are compensated with regular wages or a combination of regular wages and alternative payment methods. This proportion varies, with 11 per cent of fishers on large vessels, 3.5 per cent on medium vessels, and almost none on small vessels. Payment methods differing from regular wages also enable employees to earn higher remuneration linked to their performance. Fishers who receive a fixed wage tend to have the lowest or among the lowest average earnings among those employed on medium-sized vessels.

In some cases within the marine fisheries sector, fishers do not receive their payment immediately upon completing their fishing but only after several trips or contingent upon the catch they sell. While these systems are intended to help employers manage cash flow in an industry with fluctuating revenues, they can create financial uncertainty for fishers.

The survey assesses whether fishing workers have experienced withholding of payments by asking what would prevent them from leaving the vessel if they wished to. Around 2 per cent of workers indicated that they would not receive payment for the work they have already completed if they chose to leave the vessel. Binding workers to the vessel and the job through non-payment of their owed wages exposes them to the risk of forced labour.

In-kind payments, such as food, accommodation or equipment, also play an essential role in the compensation package for workers in the marine fishing sector. At the sampled ports, 30.8 per cent of fishers received in-kind payments. Workers on large vessels account for the highest proportion of recipients at 52.7 per cent. Workers on medium vessels follow in second place, with 35.3 per cent, and only 7.1 per cent of workers on small vessels received in-kind payments.

Fishers are also subject to a variety of deductions. The survey indicates that, on average, 3.5 per cent of fishers experience deductions for recruitment-related costs, but deductions are more frequent among fishers on large vessels (8.2 per cent). Moreover, 25.3 per cent of all fishers experienced deductions for reasons other than recruitment. This type of deduction is common on large vessels (50 per cent) and less common on medium (25 per cent) and small vessels (3.4 per cent). The most likely reasons for deductions

on large vessels are for "repayment of wage advances" and "money owed for the education of children, family members, weddings, funerals, social costs, or other family needs". Following these, albeit with much lower proportions, are deductions for extra food and recreational needs, regular food, personal protective equipment (PPE) or other equipment, and accommodation.

Social protection

The survey reveals that most fishers are not enrolled in a social security programme. Overall, 71 per cent of fishers across the 18 ports surveyed lack employment-related social security. The lack of coverage is more pronounced among fishers on small vessels (87 per cent), followed by medium (75 per cent) and large vessels (48 per cent). The health social security scheme covers more fishers than the employment scheme; however, over half of fishers lack access to health social security, with minimal variation across vessel sizes.

It is crucial to note that a significant proportion of fishers are unaware of whether they are enrolled in either type of scheme. This highlights a lack of workers' awareness of their rights. Fishers should receive a card with a unique identification number that enables them to exercise their rights when necessary. If they respond that they do not know, this may indicate that they either never received the card or received it but are not benefiting from the associated social protection schemes.

Safety on board

The survey's findings reveal that workers encountered a range of occupational hazards. Nearly 45 per cent of fishers reported facing hazardous conditions related to weather events, such as the necessity to set nets in extreme weather or the heightened risk from weather-induced hazards like storms, large waves or lightning.

The second most common hazard fishers mentioned was PPE and safety-related risks, including the lack of access to on-board safety equipment, absence of PPE, insufficient safety briefings on board, and the failure to provide adequate warm clothing.

The technical conditions of the vessels are also among the most frequently cited safety concerns. Overall, nearly 11 per cent of workers reported safety issues related to the vessels, including risks associated with the technical conditions on board, lack of stability due to the regular overloading of vessels, and vessels unfit to sail.

The lack of safety measures related to toilets increases the risk of accidents, as workers can fall overboard, especially in rough seas. Lack of privacy and hygiene is also a major concern.

Extreme fatigue and tiredness affect 7.4 per cent of all workers. Fatigue can lead to impaired decision-making and slower reaction times, significantly impacting the safety of the crew and the overall operations vessel. Interpersonal conflicts among fishers were reported by 1.5 per cent of all workers, mostly those on large vessels.

Freedom of association and collective bargaining

Indonesia ratified the ILO Right to Organise and Collective Bargaining Convention, 1949 (No. 98) through Act No. 18 of 1956, and the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87) through Presidential Decree No. 83 of 1998. Convention No. 87 guarantees workers and employers the right to form and join organizations of their choice without state interference, reflected in Indonesia's low threshold of 10 workers required to establish a union. Convention No. 98 protects workers from employer retaliation for union activities and ensures their right to collective bargaining, allowing negotiations at the enterprise, sectoral or multi-employer levels.

Currently, Indonesia does not have collective bargaining agreements (CBAs) to establish and regulate the terms of employment for fishers or specific groups of fishers.

The survey reveals a very low union membership rate among fishers, averaging 10 per cent. Fishers on medium vessels report the lowest union membership rate at 8.6 per cent, while it is slightly higher at 9.6 per cent for fishers from large vessels. Workers on medium and large vessels typically come from areas outside the port region, lacking connections with local fisher's unions. In contrast, small vessel fishers are more inclined to participate in fisher associations, although union membership remains relatively low at just 12.6 per cent.

Several factors may help explain the low unionization rate in this sector, including the fisher's lack of time and awareness regarding the benefits of trade union membership, an unwillingness to pay membership dues, or simply a lack of interest.

Child labour

Indonesia has ratified both Convention No. 138 and Convention No. 182, and the protection of children is reflected in national legislation. According to the Regulation of the Minister of Marine Affairs and Fisheries No. 33 of 2021, each crew member must be at least 18 years old.

Despite the strict legislation framework, the survey results indicate that child labour remains a concern in the sector. In the 18 ports of interest, 0.7 per cent of interviewed fishers reported they were under the age of 18, primarily boys aged 15–17 working in small and medium-sized ports. This means that for every 1,000 fishers, approximately seven were children. However, there is reason to believe that this type of survey was not fully equipped to capture child labour in the marine fishing industry at the time of the survey. A different way of capturing the prevalence of child labour in the sector is by analysing the times when interviewed workers started working in marine fishing. The survey indicates that almost 47 per cent of all workers started working in marine fishing when they were under 18 years old. While children may have started working in the sector as seasonal workers or part time, the high percentage of children starting work at an early age in such a hazardous job raises important questions about the socioeconomic factors driving child labour in fishing and the effectiveness of current policies aimed at curbing it.

Forced labour

As part of its commitment to uphold human rights and labour standards, Indonesia ratified ILO Convention No. 29 on forced labour in 1950 and Convention No. 105 on the abolition of forced labour in 1999. Additionally, Indonesia has ratified the United Nations Convention against Transnational Organized Crime (UNTOC), along with its Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children (Palermo Protocol). At the national level, Law No. 21 of 2007 on the Eradication of Human Trafficking was enacted to criminalize all forms of human trafficking, including forced labour and sexual exploitation. Despite this legislative framework, ongoing efforts are necessary to ensure full enforcement, provide stronger protections for at-risk workers, and hold perpetrators accountable.

According to the survey, 1.5 per cent of fisher employees in the 18 ports surveyed were possibly trapped in forced labour.

Fishing employees subjected to forced labour often encountered conditions where their identity documents, such as passports and seaman books, were withheld (34.1 per cent). Additionally, they were unable to voice complaints regarding their fishing vessels without significant negative consequences, including risking job loss, deductions in their pay, or experiencing physical violence (28 per cent). They were often prevented from leaving their jobs due to debts owed to the vessel owner, captain or agents (12 per cent).

Workers in forced labour have limited or no freedom to terminate their work contracts. A significant proportion of workers in forced labour reported hazardous conditions that made them fear for their safety or health (27.6 per cent), faced demands for abusive working hours that they had not previously agreed to (21.4 per cent), or encountered degrading conditions regarding the availability of food and

water on the vessel (17.5 per cent). Some fishers, mainly on large vessels with more complex recruitment processes, experienced deceptive recruitment, where they were unaware that they would be working on a fishing vessel, and felt that brokers, recruiters, vessel owners or captains took advantage of them.

The survey indicates that 0.7 per cent of all fishers are in bonded labour, with workers on large vessels constituting the largest proportion (1.1 per cent). Bonded labour is a specific form of forced labour in which individuals are compelled to stay at a job due to debt. These debts can arise when workers or their families take out loans, pay high fees, or receive advance payments from their employer or recruiter. The terms of repayment are often unfair, unclear or illegal, which allows employers to use the debt as a means of coercion to keep the worker in forced labour until the debt is fully repaid. Moreover, 1.2 per cent of fishers reported being trafficked for forced labour.

These data highlight the multifaceted nature of forced labour, coercion and trafficking within Indonesia's marine fishing sector, underscoring the urgent need for robust interventions to address these pervasive issues and protect vulnerable workers. With this survey, Indonesia is setting a global precedent in fostering transparency and accountability in the fishing industry signaling a strong commitment to eliminate forced labour and protect fishers' rights.

The report presents ten priority actions to facilitate further discussions among key stakeholders based on robust evidence that emerged from the Decent Work Survey and consultation with stakeholders.

Priority actions for consideration

1. The analysis of the legal framework in this study highlights the need to harmonize national laws and align them with international labour standards, particularly regarding decent work in the marine fishing sector. Attention should be given to overlapping jurisdictions among the various legal frameworks and authorities. The ratification of Convention No. 188, Convention No. 181, and the Protocol to Convention No. 29 would be important steps in promoting decent work for fishers, including forced labour. To ensure implementation and enforcement of the law, Indonesia may consider prioritizing mechanisms for coordination among relevant authorities at both national and local levels, as promoted by ILO Convention No. 188. A good practice in this respect is the joint inspection mechanism implemented by the Ministry of Manpower and the Ministry of Marine Affairs and Fishing, with ILO support, to carry out joint inspections and refer cases to employers for remediation.

2. The survey results show significant gaps in enforcing fair recruitment standards regulated in national laws and in alignment with international standards. Although there are clear laws and regulations banning recruitment fees and related costs, enforcement gaps exist. Establishing accessible grievance mechanisms will enable fishers to report violations, while implementing remediation programmes to reimburse those who have paid illegal fees can help deter future violations. The ILO's Fair Recruitment Initiative training module on labour inspections and monitoring for the fair recruitment of migrant workers (ILO, n.d.) is an important tool in this regard.

3. The survey results call for addressing the high level of informality in the fishing sector. While all fishers are required to have a Perjanjian Kerja Laut (PKL) or Fishers' Work Agreement, most fishers work under verbal agreements. To tackle this issue, first, the barriers to formalization and the incentives needed to promote it have to be understood. Simplifying contract templates and reducing administrative costs can make formalization more accessible, especially for small-scale fishers.

4. The results highlight the importance of investing in technology and skill development for workers to enhance the fishing sector and improve workers' welfare. Advanced technologies, such as GPS navigation, weather monitoring, and automated catch tracking, can enhance safety and sustainability by reducing risks and improving efficiency.

5. It would be advisable to take proactive measures to expand social security coverage for workers in the fishing sector. To increase participation in social security, there is a need to prioritize awareness to increase understanding of its benefits, to simplify registration processes, and to reduce administrative barriers, making it easier for fishers – especially those in the informal sector – to enrol.

6. The survey results point to a need to advance occupational safety and health (OSH) on board fishing vessels. Regulations in alignment with international standards need to be progressively implemented and enforced considering the sector's current status and potential. This includes mandating the provision of safety equipment, ensuring that vessels are designed and maintained to minimize hazards, and requiring comprehensive training for fishers on emergency procedures, safety protocols and the use of protective equipment.

7. The results underline the importance of increased efforts to overcome structural barriers to unionization and to raise workers' voices through trade unions and collective bargaining. Trade unions should be responsive to fishers' specific needs, ensuring that their services address their concerns. Fostering collaboration with government agencies, industry stakeholders and international organizations can further enhance the impact. The Trade Unions' Network in the fishing sector, supported by the ILO, operates in this direction by fostering a unified voice among trade unions and reinforcing bilateral and tripartite social dialogue within the fishing sector. Additional actions include raising awareness about the benefits of union membership, strengthening worker support in negotiating working conditions and reducing financial barriers to membership to encourage participation.

8. Based on the survey results, there is a need for urgent measures to tackle fundamental principles and rights at work, including child labour, forced labour and trafficking for forced labour in the fishing sector. Decisive action should be taken to eliminate forced labour in the fishing sector by ratifying ILO Protocol 29 on Forced Labour and aligning national legislation with the Protocol and with the Forced Labour (Supplementary Measures) Recommendation, 2014 (No. 203). These instruments call for stronger prevention, protection and remediation measures, including improved labour inspections, victim identification mechanisms, and access to justice and compensation for affected workers.

9. It is advisable to promote studies that adopt a fisheries supply chain approach to understand the sector's broader structural challenges and opportunities, as well as the crucial role of the sector's stakeholders. A strategic supply chain approach can serve as a key driver of decent work and inclusive economic growth by revealing supply chain incentives that promote fair labour practices and better working conditions. Trade agreements can create opportunities for the fishing industry to access export markets, while strengthening compliance with labour standards will enhance the industry's reputation as ethical and sustainable. In recent years, employers have taken concrete steps to promote decent work in the fishing industry by integrating human rights and labour standards into due diligence processes, offering financial education and training to fishers and their families, and adopting codes of conduct to combat forced labour.

10. The survey results highlight the importance of enhancing data collection and utilization to inform policy decisions in the fishing sector by leveraging administrative records from relevant authorities. Strengthening data coordination across agencies will improve oversight, support evidence-based policymaking, and bolster protections for fishers.

Governments, employers' organizations and workers' organizations all have important roles to play in addressing these priorities through tripartite consultation and social dialogue. This report aims to serve as a valuable tool for facilitating this process.

Acronyms and abbreviations

ABK	ship crew
APINDO	Entrepreneur Association (Indonesia)
AP2HI	Indonesian Pole & Line and Handline Fisheries Association
ATLI	Indonesian Longline Tuna Association
BJI	Blue Justice Initiative
BPJS	Badan Penyelenggara Jaminan Sosial (Social Security Organizing Agency)
BRIN	National Research and Innovation Agency of Indonesia
BST	basic safety training
CAPI	computer assisted personal interviewing
CBA	collective bargaining agreement
CSO	civil society organization
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organization
FGD	focus group discussion
FPRW	Fundamental Principles and Rights at Work
GDP	gross domestic product
GPS	global positioning system
GT	gross tonnage
IDR	Indonesian Rupiah
ILO	International Labour Office/Organization
ILS	international labour standards
IMO	International Maritime Organization
ISIC	international Standard Industrial Classification
IUU	illegal, unreported and unregulated
KII	key informant interview
KKM	motorboat chief
KKP	Kementerian Kelautan dan Perikanan (Ministry of Maritime Affairs and Fisheries)
LOA	length overall
MCS	monitoring, control and surveillance
NGO	non-governmental organization
NM	nautical miles
NORAD	Norwegian Agency for Development Cooperation

NSC	National Steering Committee
OSH	occupational safety and health
PAPI	paper and pencil interviewing
PERISAI	Expansion of Participation in Social Indonesia
PKL	Perjanjian Kerja Laut (Fishers' Work Agreement)
PPE	personal protective equipment
PPI	Pangkalan Pendaratan Ikan (Fish Landing Bases)
PPN	Pelabuhan Perikanan Nusantara (Nusantara Fishery Ports)
PPP	Pelabuhan Perikanan Pantai (Coastal Fishery Ports)
PPS	Pelabuhan Perikanan Samudera (Ocean Fishery Ports)
PRK-BRIN	Research Center for Population, National Research and Innovation Agency of Indonesia
PSU	Primary sampling unit
RT	*dusun* (neighbourhood)
SJSN	Sistem Jaminan Sosial Nasional (National Social Security System)
TAC	Technical Advisory Committee
UNCLOS	United Nations Convention on the Law of the Sea
UNTOC	United Nations Convention against Transnational Organized Crime
WPPNRI	Wilayah Pengelolaan Perikanan Negara Republik Indonesia (Fisheries Management Area of the Republic of Indonesia)


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1 Introduction

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1. Introduction

1.1 Background

Fishing is among the most hazardous and physically demanding professions in the world. Workers on board face constant exposure to harsh environmental conditions and operate heavy equipment on wet and unstable surfaces, increasing the risk of injuries and accidents. In some cases, fishers navigate poorly regulated waters, exposing them to dangers such as piracy or illegal competition for marine resources. The isolated nature of their work means that medical emergencies or mechanical failures can quickly escalate into life-threatening situations, with limited access to immediate help.

Fishers often spend months at sea living in confined quarters with minimal amenities, enduring physical exhaustion and psychological stress. Prolonged isolation from family and community, coupled with limited or no access to communication, exacerbates feelings of loneliness and alienation. Scarce nutritious food, clean water and medical care during long voyages further challenge physical and mental health.

Isolation makes fishers particularly vulnerable to exploitative working conditions, such as excessive working hours, unpaid wages and inadequate safety measures. In extreme cases, fishers encounter harassment and verbal, physical and sexual violence. Reports of forced labour and trafficking in persons have emerged. Yet, the remoteness of the work and the difficulty of conducting inspections allow perpetrators to operate with impunity, leaving victims with little protection.

The ILO establishes international labour standards (ILS) through Conventions and Recommendations to guide national governments, workers and employers in safeguarding workers' rights and improving labour conditions in all sectors, including fishing.

The ILO Work in Fishing Convention, 2007 (No. 188) sets the minimum standards of decent work in the fishing sector through binding requirements to address work on board fishing vessels, including occupational safety and health and medical care at sea and ashore, rest periods, work agreements, and social protection. It aims to ensure that fishing vessels are constructed and maintained so that fishers have decent living conditions. The Convention provides for regulation of the recruitment process and investigation of complaints to help prevent forced labour, trafficking and other abuses.

The ILO Minimum Age Convention, 1973 (No. 138) and Worst Forms of Child Labour Convention, 1999 (No. 182) regulate children's work. Furthermore, the ILO has adopted two Conventions to prohibit the practice of forced labour in all its forms and sectors: the Forced Labour Convention, 1930 (No. 29), and the Abolition of Forced Labour Convention, 1957 (No. 105). In June 2014, the ILO adopted the Protocol of Forced Labour Convention No. 29 and Recommendation No. 203 on Forced Labour (Supplementary Measures). The Protocol is a legally binding instrument that supports the implementation of Convention No. 29, while Recommendation No. 203 provides non-binding practical guidelines for implementing the Protocol.

Additionally, the Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, adopted in 2000 (commonly known as the Palermo Protocol) supplements the United Nations Convention against Transnational Organized Crime.

This report presents the findings of a comprehensive study conducted to assess any decent work gap or violation of fundamental rights at work in the fishing sector in Indonesia, including instances of child labour, forced labour or human trafficking. The study results from a collaboration between the International Labour Organization (ILO) and the Research Centre for Population of the National Research and Innovation Agency (BRIN).

The study features the first-ever Survey on Decent Work in Marine Fishing developed by the ILO to gather reliable and statistically representative data on decent work in the sector. The survey provides indicators of decent work that align with labour standards in the ILO Conventions, aimed to inform evidence-based policy design and facilitate progress monitoring. The indicators pertain to aspects of decent work such as employment status, earnings, hours of work, health and safety, freedom of association, social security, and the prevalence of child labour and forced labour. The survey results are enhanced by qualitative research based on focus group discussions (FGDs), in-depth interviews, and workshops with key stakeholders.

The next section of this introduction offers an overview of the fishing sector in Indonesia. Following this, the report includes three other chapters. Chapter 2 discusses the study's methodology with a particular focus on the survey; Chapter 3 presents the survey findings, complementing them with the results of the other research components. The last chapter, Chapter 4, offers some reflections on priority actions for consideration.

1.2 The fishing sector in Indonesia

Situated between the Pacific Ocean and the Indian Ocean, Indonesia is the largest archipelagic country in the world, consisting of 17,504 islands and the fourth longest coastline with a length of 95,181 kilometres (km) and an exclusive economic zone of 2.91 million km.

The fisheries sector of Indonesia plays a vital role in the national economy and food security. In 2021, the sector contributed 2.8 per cent to Indonesia's GDP with a total of US$22,281 million and 35.3 kg/capita fish for consumption (SEAFDEC 2025). The sector comprises marine capture fisheries, inland capture fisheries and aquaculture. In 2021, 2.36 million people were working in capture fishing sector in Indonesia, roughly 1.3 per cent of the working-age population.[1] Marine capture fisheries account for more than half of the value of the sector, equivalent to US$12,414 million in 2021 (SEAFDEC 2025). The highest production of marine capture fisheries was from tuna (31 per cent), scads (18 per cent), mackerel (8 per cent), sardinella (7 per cent), squid (6 per cent), snapper (6 per cent), shrimp and prawn (5 per cent), seer fish (4 per cent), jack and crevalle (4 per cent), pomfret (3 per cent), crab (3 per cent), bivalves (2 per cent), and anchovy (2 per cent) (SEAFDEC 2025).

Indonesia's capture fishing production was approximately 7.99 million tons in 2022, accounting for about 8.6 per cent of the global total. This positions Indonesia as the second-largest producer in the world, following China (contributing 14.8 per cent to global capture fisheries production). Other leading producers include India, Japan, Norway, Peru, Russian Federation, United States, and Viet Nam, which together produce half of the global capture production (FAO 2024).

Unlike many other countries, Indonesia does not have a quota-based fisheries management policy. The Government of Indonesia attempted to introduce a quota-based fisheries system with a decree issued on 29 November 2023. However, the decree has faced multiple delays and was ultimately declared null and void in December 2024.

The proposal for a quota-based fisheries system in Indonesia has sparked controversy due to concerns regarding equity, economic impact and enforcement. Critics argue that the quota system would prioritize large commercial fishing companies while penalizing small-scale fishers. Small-scale fisheries play a crucial role in the industry, making up approximately 90 per cent of the fishing vessels in the country (KKP 2025).[2] Many coastal communities depend on fishing for their livelihoods and fear that quotas

1 Working-age population was estimated at 183,699 million in 2020 by ESCAP (2025).

2 In 2021, out of one million marine fishing vessels in Indonesia, 61.1 per cent were boats without motors or with one outboard motor and 29.6 per cent were motorboats below 5 gross tonnage (GT) (KKP 2025). Moreover, the large majority of vessels are operated by individuals rather than companies.

could favour industrial players, leading to economic difficulties for small-scale fishers (Gokkon 2023a). Additionally, there are concerns about the Government's capacity to enforce the policy. Indonesia has a vast marine area, making effective monitoring particularly challenging. Quota violations could undermine the policy's intended goals without proper monitoring and enforcement (Gokkon 2023b).

1.3 National and international legal frameworks on decent work in the fishing sector in Indonesia

The Government of Indonesia has made significant commitments to align its legislation with international labour standards. It has ratified nine of the eleven ILO fundamental instruments,[3] including

- the Forced Labour Convention, 1930 (No. 29)
- the Freedom of Association and Protection of the Rights to Organise Convention, 1948 (No. 87)
- the Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
- the Equal Remuneration Convention, 1951 (No. 100)
- the Abolition of Forced Labour Convention, 1957 (No. 105)
- the Discrimination (Employment and Occupation) Convention, 1958 (No. 111),
- the Minimum Age Convention, 1973 (No. 138)
- the Worst Forms of Child Labour Convention, 1999 (No. 182)
- the Promotional Framework for Occupational Safety and Health Convention, 2006 (No. 187)

By ratifying ILO Conventions Nos. 29, 105, 138 and 182, Indonesia has strengthened its commitment to align with international efforts to address and prevent forced labour, child labour, and trafficking for forced labour. Moreover, Indonesia ratified the United Nations Convention against Transnational Organized Crime and the supporting 2000 Palermo Protocol, which aim at preventing and combatting human trafficking. However, enforcing these standards may present challenges and Indonesia has yet to ratify the 2014 Protocol to the Forced Labour Convention, No. 29, which requires States to take measures on prevention, protection and remedy to fulfil the Convention's obligation.

Indonesia has also ratified Conventions Nos. 87, 98, 100, 111 and 187 covering subjects concerning freedom of association and the effective recognition of the right to collective bargaining, the elimination of discrimination in respect of employment and occupation and the promotion of occupational safety and health at work.

While ratifying fundamental Conventions marks an important step, ensuring meaningful protection for fishers will require the effective implementation and enforcement of these standards.

In addition, Indonesia has yet to ratify the Occupational Safety and Health Convention, 1981 (No. 155) and the Protocol to Convention No. 29. among the fundamental instruments, and the Work in Fishing Convention, 2007 (No. 188), which is essential for fishers' working conditions.

3 Conventions, Protocols and Recommendations | International Labour Organization.


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Indonesia has several key legislative elements governing decent work in the fishing sector:

1. **Law No. 13/2003** on Manpower. This law provides general labour regulations applicable to sectors, including fishing.
2. **Law No. 17/2008** on Shipping. This law applies to all vessels, including fishing vessels, and provides for basic conditions of employment such as salary, working hours, rest periods, accommodations, food and drink, health care, and accident insurance.
3. **Law No. 7/2016** on Protection and Empowerment of fishers, fish farms and salt farmers. This law prohibits vessel owners from employing any fishers without a work agreement.
4. **Regulation 3/2019 of the Ministry of Marine Affairs and Fisheries** provides detailed implementation guidelines or specific rules within the framework of Law No. 7/2016.[4]
5. **Ministerial Regulation of the Minister of Marine Affairs and Fisheries No. 33/2021** on Monitoring, Control and Surveillance (MCS) and Manning of fishing vessels. This regulation provides the basic conditions of employment on board fishing vessels, including the minimum age (18 years old), certification of skills, medical certificate, work agreement, working hours, rest period, remuneration system, leave, occupational safety and health risks, and repatriation. It also legislates that work agreements must be approved by harbourmasters.[5]

4 Ministerial regulations such as 3/Permen-KP/2019 are meant to provide detailed implementing regulations for higher-level laws such as Law No. 7/2016.

5 This regulation is currently under revision.

However, overlapping jurisdictions among different legislative tools and authorities remain a significant challenge. The protection of worker rights is regulated under labour law, shipping law, or fisheries law, thus lacking a coherent and comprehensive legal framework. Challenges also remain in implementing and enforcing laws and regulations, particularly for small-scale fishing vessels that operate largely informally, and for the distant water fishing fleet.

In 2019, the ILO published an assessment of Indonesian laws and regulations pertinent to the labour standards outlined in Convention No. 188 (ILO 2019). This analysis was conducted in collaboration with the then Coordinating Ministry of Marine Affairs and Investment and other relevant ministries. The findings recommended that Indonesia harmonize or amend its legislation to ensure consistency between national laws and the standards set in the Convention. Additionally, in 2024, the ILO assessed Indonesian legal and regulatory mechanisms for eliminating forced labour and concluded that while the Government of Indonesia has incorporated most provisions into national law, it has focused mostly on Indonesian migrants, while workers experiencing forced labour within the country are overlooked (ILO 2024).

The ratification of Convention No. 188 and Protocol to Convention No. 29 would demonstrate the Government of Indonesia's commitment to align national legislation with international labour standards critical for the fishing sector and set an important step toward addressing violations of decent work in the sector.

2
Methodology

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2. Methodology

2.1 Research methods

2.1.1 2024 Survey on Decent Work in Marine Fishing

The 2024 Survey on Decent Work in Marine Fishing in Indonesia relies upon a quantitative research method that yielded estimates resulting from the analysis of more than 3,500 interviews with fishing workers, who were selected based on a careful sampling design to ensure representativity within the selected ports.

The survey examines decent work conditions in marine fishing categorized under the International Standard Industrial Classification code ISIC Rev 4 = 0311.[6] All workers engaged in marine fishing are within the scope of the survey, regardless of their occupation on board. Thus, the survey encompasses a diverse range of roles such as officers, captains, crew members, technicians, fishers, cooks, and so on.[7] This includes both national and migrant workers on national or foreign flag vessels fishing in Indonesia's Exclusive Economic Zone (EEZ),[8] high seas (international waters) or within the EEZ of another country and docking in Indonesia.

The ILO Work in Fishing Convention, 2007 (No. 188) addresses all aspects of fishers' work and serves as a foundation for measuring decent work in fishing with the Survey on Decent Work in Marine Fishing.[9] The survey assesses compliance with the Convention requirements such as minimum age, hours of rest, fisher agreements, recruitment and placement, payment, food and water provisions, occupational safety and health, and social security. Questions on recruitment and placement include details on means of recruitment, transportation to the port and recruitment costs and conform to the measurement of SDG indicator 10.7.1, that is, the recruitment costs borne by employees as a proportion of their monthly income in the destination country.

6 ISIC Rev 4 = 0311 includes commercial fishing in ocean and coastal waters, taking marine crustaceans and molluscs, whale catching, and taking marine aquatic animals: turtles, sea squirts, tunicates and sea urchins, among others This class also includes activities of vessels engaged in both fishing and in processing and preserving fish and gathering other marine organisms and materials: natural pearls, sponges, coral and algae.

7 According to Convention No. 188, "fisher" refers to any person employed or engaged in any capacity aboard a fishing vessel. This includes individuals who are paid a share of the catch. However, it excludes pilots, naval personnel, government employees in permanent service, shore-based workers who carry out tasks on board a fishing vessel, and fisheries observers. This definition is consistent with the scope of the present study. This report will use the term "fishers" to refer to marine fishing workers as defined above.

8 Indonesia's EEZ refers to the maritime area extending 200 nautical miles (370 kilometres) from its baseline, as defined by the United Nations Convention on the Law of the Sea (UNCLOS). In this zone, Indonesia has sovereign rights to explore, exploit, conserve, and manage natural resources, both living and non-living, within the water column, seabed and subsoil.

9 Convention No. 188 applies to all fishers and all fishing vessels engaged in commercial fishing operations. Member States, after consultation, may extend, in whole or in part, to fishers working on smaller vessels the protection provided in the Convention for fishers working on vessels of 24 metres in length and over. The Survey on Decent Work in Marine Fishing uses the provision in Convention No. 188 to assess the working conditions of all workers in the sector, providing disaggregation by vessel typology.

The survey measures ILO Fundamental Principles and Rights at Work (FPRW) indicators, including abolition of forced labour and child labour, non-discrimination regarding employment and occupation,[10] freedom of association and collective bargaining, and occupational safety and health. Special attention is given to measuring forced labour and trafficking in persons, which are statistically rare phenomena requiring tailored sampling methodologies and questionnaire designs.

2.1.2 Workshops

A National Steering Committee (NSC) and a Technical Advisory Committee (TAC) were created to inform and validate the study's methodology and results. The NSC was institution-based and ensured representation at the highest political level, including tripartite representatives. The members of the NSC include government representatives, employers' and workers' organizations, private sector representatives, non-governmental organizations (NGOs), civil society organizations (CSOs), survivor-led organizations, and other institutions engaged in marine fishing in the country. The NSC is responsible for reviewing the work progress, providing policy direction, and ensuring the project achieves the needed results based on the set goals.

The Technical Advisory Committee (TAC) was composed of national experts who provided input throughout all the study phases. Members included government representatives, workers' and employers' unions, private sector representatives, NGOs, CSOs, survivor-led organizations, academia and think tanks, and other institutions/experts engaged in marine fishing in the country.

The NSC and TAC membership were required to be gender balanced and to represent the voices of minorities in the fishing sector. The members of the two committees were consulted during two workshops, one at the inception phase to discuss the methodology, the scope, and the aim of the survey; and the second one at the end of the study to interpret and validate the results. The first workshop was particularly beneficial in gaining support, agreement and commitment from key national stakeholders and adapting the research to the country's needs. From the consultation, the need emerged to expand the scope of the survey to have a broader measurement of decent work and add some questions on social protection and unionization to the questionnaire. The Indonesian Government has emphasized the importance of increasing evidence regarding social protection coverage in the fishing sector because universal coverage is a fundamental aspect of the Government's initiative to promote decent work. Similarly, the Government acknowledged the vital role of unionization in giving workers a platform to express their aspirations and engage in meaningful discussions and expressed the need for more evidence on the sector's union membership rate.

In the second workshop, the participants reflected on the results of the survey and endorsed them with statements such as the following from the Ministry of Manpower: "We have conducted a joint investigation on ports in Indonesia (cooperation between several ministries and the ILO) and found that the research results are in accordance with the conditions in the field. Although the basis of our research is the fisheries workforce of 30 GT and above."[11]

Stakeholders also expressed high hopes for the outcomes of this research, such as this from the Ministry of Marine Affairs and Fisheries: "We also support the final recommendation of this research to ratify ILO Convention No. 188, 2007."

10 Discrimination indicators are not shown in the results because few variations were found in decent work indicators across age and migration status. While women play a critical role in fishing supply chains, they are unrepresented on board, rendering a gender analysis impossible in this study. The discrimination analysis may be more pertinent in other contexts and within the supply chain.

11 Building on this and other feedback it was also decided to produce analysis disaggregated by the size of the vessels (lower than 10 GT, higher than 10 GT and lower than 30 GT, above 30 GT), which correlated with the vessel destination such as vessels for small-fishing or commercial/industrial vessels.

This statement indicates that various stakeholders are engaged in enhancing fishers' decent work, highlighting the strategic value of this survey in supporting ongoing programmes.

2.1.3 Focus group discussions

The research team conducted focus group discussions (FGDs) in preparation for collecting survey data and, later, for collecting further evidence on working conditions in the fishing sector.

The FGDs held in preparation for the survey data collection were conducted online in the 18 ports surveyed, with nine occurring in May 2023 and the remaining nine in August 2023. They were essential for understanding local fishing communities, shaping the survey methodology, and pinpointing key data collection areas. Additionally, the discussions were critical in identifying qualified enumerators for the survey. The outcomes of these FGDs included: (a) an overview of the number, distribution and composition of fishing households at the sampled location; (b) an assessment of the number, distribution and frequency of fishing vessel berthing based on vessel capacity (GT) in the sampled ports; and (c) a deeper understanding of the organizational structure of workers on fishing vessels over 10 GT at the sampled ports.

The FGDs aimed at collecting further evidence on working conditions in the sector occurred between July and September 2024 in various locations, including North Sumatra, Central Java, North Sulawesi, Bali, and several other provinces. Discussions occurred at strategic venues such as harbour offices, local government facilities and stakeholder association headquarters. Participants included key stakeholders such as harbourmasters, port staff, fisheries entrepreneurs, representatives from workers' unions, local government officials and NGOs. The FGDs served as a platform for these stakeholders to discuss the decent work aspects covered by the survey, understand the challenges related to decent work in the sector, and deliberate on the policies and strategies required to foster decent work within the industry.

2.1.4 Interviews with key stakeholders

BRIN interviewed several stakeholders as key informants during the data collection. In the vessel-based survey, harbourmasters, port supervisors, captains and marine fisheries workers were interviewed. In the administration area-based survey, village officials, heads of fishers' groups, capture fisheries workers, and fisheries auction managers were also interviewed.

After the second workshop with members of the NSC and TAC and following the integration of their feedback, BRIN, with support from the ILO, conducted consultations with key ministries and stakeholders through interviews. These interviews aimed to gather opinions on the survey results and the policy recommendations. BRIN consulted with the Ministry of Maritime Affairs and Fisheries, the Ministry of Manpower, APINDO (Entrepreneur Association) and NGOs. The priority actions for consultation emerging from this report were discussed during these interviews.

2.2 Survey tools

As part of this project, new tools were developed to assess decent work and fundamental principles and rights at work within the fishing sector. The survey tools encompassed questionnaires, a sampling strategy, methodology for calculating indicators, training materials for enumerators, ethical guidelines for data collection, statistical coding for data analysis, an indicator framework that aligns decent work indicators with international standards and national legislation, and a tabulation template featuring a list of key indicators. These tools were created by the Research and Evaluation Unit of the ILO FUNDAMENTALS Branch in a standardized manner to facilitate comparison across countries through harmonized data and enable the replication of surveys in other countries.

The development process involved collaboration between BRIN and the ILO country office, as well as consultations with the NSC and the TAC. This collaboration ensured that the tools were adapted to the specific national context. For instance, relevant questions about national policies were added to the questionnaires, and response options were modified to reflect the various types of fisheries, vessels, recruitment practices and other pertinent factors. Additionally, the sampling strategy was customized to account for the different types of ports in Indonesia, and indicators were disaggregated by vessel size (small, medium and large) to align with local legislation. The remainder of this subsection briefly describes selected tools.

2.2.1 Questionnaires

The original questionnaire used for the consultation and adaptation process was designed to assess violations of decent work, with a strong emphasis on forced labour and trafficking for forced labour in the marine fishing sector.[12] It was further refined following cognitive testing conducted in Indonesia and Cambodia. Additionally, the questionnaire was revised following consultations with national stakeholders in the respective countries. One significant recommendation received at the national level was to broaden the survey's scope to encompass more indicators related to decent work. In response, the ILO team, in collaboration with BRIN, enlarged the questionnaire by incorporating extra questions pertinent to Convention No. 188 and the ILO Decent Work Framework.

The questionnaire was administered to workers engaged in marine fishing, selected either from marine fishing vessels docked at designated ports or households situated near these ports. There were slight variations in the questionnaire for these two groups, particularly in the initial section that collected information about the ports, vessels or households. For fishers selected from households, the questionnaire was crafted to gather information not only about those currently working in the sector but also about those who had worked in the sector within the past three years, even if they were not presently employed. However, the results indicated that almost all the household fishers interviewed were currently employed, which led to the decision to exclude those not currently working in the sector from the analysis.

The questionnaire contains modules on the eligibility and demographic characteristics of marine fishing workers, their work contracts, travel arrangements to their workplaces, recruitment costs, earnings, working conditions, safety on board, social protection, collective bargaining, living conditions and freedom of movement. It also includes a referral section to address any cases of forced labour or trafficking for forced labour that may be identified. Due to the sensitive nature of certain questions, the methodology excluded using proxy responses; therefore, workers were required to answer the questions directly. The interviews were in-person by trained enumerators using paper and pencil interviewing (PAPI).[13]

12 The questionnaires were developed with support from the Norwegian Ministry of Trade, Industry, and Fisheries under the Blue Justice Initiative.

13 Although computer assisted personal interviewing (CAPI) had been developed, BRIN enumerators utilized PAPI due to limited internet access in some interview areas. Furthermore, with PAPI, respondents could observe the questionnaire completion process, which made them feel more at ease during the interview.

2.2.2 Sampling design

The base population for measurement consisted of workers in marine fishing, a population relatively rare and difficult to target. Additionally, the survey aimed to capture some hidden and rare phenomena, such as forced labour, child labour, and trafficking in persons for forced labour, requiring careful sampling tools.

Thus, the sample size requirement was determined with reference to the prevalence of forced labour, since if forced labour can be identified it provides sufficient conditions to measure all the other decent work indicators. The technical implications of sample design regarding sample size and weighting are provided in Annex 1.

The sampling strategy for the survey involved the selection of ports representing various types of marine fishing facilities in the country. Based on the chosen ports, vessels and workers were selected through indirect sampling. Likewise, based on the chosen ports, residential areas and households with workers involved in marine fishing near the port were identified and sampled using a multi-stage approach.

In the sampling process involving vessels, fishing vessels were randomly selected from a list of vessels at a specific port on a particular day. Once a vessel was chosen, a second level of randomization was employed to select interviewees from the crew list.

The living quarters were sampled from an area near the port, where local fishers were known to reside. A list of households within this area was obtained, and households from the list were randomly selected. After filtering for eligibility, one respondent per household was randomly chosen.

The sampling of vessels and workers was carried out on two occasions, namely in July and October, partly to account for the season and the number of fishing vessel landings. In some ports, the highest number of fishing vessel landings occurs from September to December, so the research was conducted at that time.

2.2.3 Ethical guidelines

Surveys on decent work, particularly those that include questions about child labour, forced labour and trafficking in persons, necessitate serious ethical considerations to safeguard both the interviewees and interviewers. This is highlighted in the ILO *Ethical guidelines for research on forced labour* aimed at assessing the presence of forced labour among adults and children (ILO 2023).

Informed consent must be obtained from all fishers before the interviews commence. Furthermore, it is crucial to conduct the survey interviews in a secure location away from the workplace, where the presence of the employer or their representative could hinder the respondent's willingness to provide honest information. In some instances, participation in the survey itself could pose a threat to the worker. For this survey, BRIN, in collaboration with ILO, developed a data collection protocol that includes ethical considerations based on the ILO *Ethical guidelines* (ILO 2023) and tailored it to the context of the fishing sector in Indonesia.

2.3 Testing and validating the survey methodology

Before implementing the survey, BRIN, with the support of the ILO, conducted a pilot test of the survey's sample design and questionnaire. The objective of the pilot test was twofold: (a) to assess the feasibility of the sample design and obtain numerical values for its main parameters; and (b) to evaluate the questionnaire and the CAPI software developed for the survey.

The pilot involved 41 workers interviewed from the vessels and 49 workers interviewed from households in PPI Donggala (Central Sulawesi), PPN Benoa (Bali), PPS Cilacap (Central Java), and PPP Muncar (East Java).

The pilot explored the conditions of fishing workers based on vessels and administrative areas, offering insights into crew sizes, vessel capacities, worker activities after landing, the best times and locations to conduct the interviews, and the processes for accessing the workers for these interviews, among other aspects. The findings from various ports shed light on the diversity and complexity of Indonesia's fishing industry. The lessons learned from the pilot regarding the sampling strategy and the questionnaire design informed the methodology review.

2.4 Survey sample

Indonesia's fishing ports are categorized into four main types, each serving specific roles within the nation's fisheries sector:

Type A: Ocean Fishery Ports (Pelabuhan Perikanan Samudera – PPS)

These are the largest fishing ports, equipped to handle large-scale fishing vessels and significant fishery activities. They serve as central hubs for fish landing, processing and distribution. There are seven PPS in Indonesia.

Type B: Nusantara Fishery Ports (Pelabuhan Perikanan Nusantara – PPN)

PPNs are medium-sized ports that support national fishery operations. They cater to medium-sized fishing vessels and facilitate regional fish trade. Indonesia has 16 PPNs.

Type C: Coastal Fishery Ports (Pelabuhan Perikanan Pantai – PPP)

These ports are smaller and primarily serve local fishing communities. They handle small to medium-sized vessels and focus on local fish landing and distribution. There are 45 PPPs in Indonesia.

Type D: Fish Landing Bases (Pangkalan Pendaratan Ikan – PPI)

PPIs are the smallest facilities, often situated in rural or remote areas. They provide basic amenities for fishers to land their catch and are crucial for supporting local fishing activities. There are 510 PPIs across Indonesia.

The 3,551 fishers sampled (including the final sample of interviewed and non-responders) were selected from 18 ports in Indonesia, representing the four types of ports across Eastern, Central, and Western Indonesia. The distribution of the sampled ports is presented below.

- four ports of type A (Ocean Fishery Ports/PPS)
- five ports of type B (Nusantara Shipping Ports/PPN)
- four ports of type C (Coastal Water Ports/PPP)
- five ports of type D (Fish Landing Bases/PPI).

Table 1 reports the households and vessels sampled from the 18 selected ports. In some cases, the final sample size was smaller than the target due to various factors, including difficulties locating the addresses, unavailable individuals, or refusals to participate in interviews.

The sample comprised approximately 197 workers from each port, selected through vessel-based sampling and area-based sampling (see table 1). The sample distribution between vessels and administrative areas varies based on the characteristics of the population at each port. For instance, at Nizam Zachman, no fishing workers reside near the port because fishing concerns primarily large vessels with workers sleeping on board, resulting in no samples collected from administrative areas. In Type D ports, most sampled workers are in administrative areas, as no large vessels dock at these ports, resulting in samples collected in administrative areas. Consequently, a vessel-based sampling approach was utilized for 11 ports, a household-based sampling approach was employed for six ports, and both methods were employed in one port (Oeba, NTT).

▶ Table 1. Survey sample by ports and sampling units

Port	Vessel-based sample			Household-based sample			Total
	Target sample	Non-response	Response	Target sample	Non-response	Response	Response
Port A (PPS)							
Nizam Zachman (DKI Jakarta)	200	9	191	-	-	-	191
Cilacap (Central Java)	197	0	197	-	-	-	197
Bitung (North Sulawesi)	197	1	196	-	-	-	196
Belawan (North Sumatra)	197	12	185	-	-	-	185
Port B (PPN)							
Pekalongan (Central Java)	197	1	196	-	-	-	196
Benoa (Bali)	197	0	197	-	-	-	197
Kwandang (Gorontalo)	197	2	195	-	-	-	195
Ternate (North Maluku)	197	0	197	-	-	-	197
IDI (Aceh)	-	-	-	197	2	195	195
Port C (PPP)							
Tegalsari (Central Java)	197	8	189	-	-	-	189
Pondok Dadap (East Java)	197	0	197	-	-	-	197
Muncar (East Java)	-	-	-	197	0	197	197
Labuhan Lombok (NTB)	197	0	197	-	-	-	197
Port D (PPI)							
Muara Kintap (South Kalimantan)	-	-	-	197	13	184	184
Oeba (NTT)	106	4	102	91	0	91	193
Donggala (Central Sulawesi)	-	-	-	197	8	189	189
Selili (East Kalimantan)	-	-	-	198	40	158	158
Manggar (Bangka Belitung)	-	-	-	197	20	177	177
Total	2 276	37	2 240	1 274	82	1 192	3 432

Note: Thirty-six respondents were excluded because they had engaged in marine fishing within the last three years but were not currently employed in the sector. Therefore, the analysis is based on 3,396 fishers.

Vessel sampling at the port was conducted based on the list of vessels that were docked the day before the interview. This scheduling gave workers adequate time to rest after working long hours at sea. The sampling of vessels and vessel-based workers was carried out through the following stages:

1. **Creation of the list of vessels in the port on the day of the interview:** A day before the interviews, the research team compiled a list of landing vessels based on the information received from the port authority (head of port, harbourmasters, or head of cooperatives). The list included the following details: vessel serial number, vessel name, tonnage, number of crew members, vessel flag, and fishing ground.[14]

2. **Random selection of vessels from the port's list on the day of the interview:** Vessels were selected randomly from the crew list provided by the port authority. The number of vessels chosen for sampling was based on the daily target number of interviews. Data collection at each port lasted approximately 10 days, aiming to interview around 20 respondents each day.

3. **Acquiring the crew lists of the vessels chosen in Step 2.** These crew lists were obtained from the harbourmasters or captains. The crew lists include the workers' serial numbers, names, and roles on the vessel (for example: captain, deputy captain, crew).

4. **Selection of sample workers from the crew lists for interviews.** Workers were selected randomly from the crew list obtained in Step 3. The crew members selected for interviews were as follows: all crew members from vessels with fewer than five members; five crew members from vessels with five to 19 members; and 10 crew members from vessels with 20 or more members. Workers were allocated according to their role on the vessel into two strata: "non-sailors," including the captain, deputy, bosun, engineer, and so on; and "sailors," encompassing all other crew members. In each sample vessel, one worker was randomly selected from the "non-sailors" and the others from the "sailors." If a vessel had fewer than five workers, all workers were included in the sample.

The households were sampled in both local coastal areas (near the port) and non-coastal areas, provided at least one fisher worker resided there. Coastal areas function as transitional zones between land and sea. The marine section is impacted by land-based activities, including sedimentation and freshwater flows, while the terrestrial section is shaped by oceanic influences such as tides, sea breezes and saltwater intrusion. The smallest administrative area of government in Indonesia, known as "*dusun*," "RT," or neighbourhoods, served as the sampling unit. The number of sampled areas (dusun, RT, neighbourhoods) was determined by the number of workers to be selected and the population of marine fishing workers residing in those areas.

The sampling of households and household-based workers was conducted through the following stages:

1. **Creation of a list of geographical areas (RT) that use the port facilities of the sampled port.** The list included sub-districts and villages around the port where residents use these facilities. Such facilities encompass landing services, fuel support, and document processing prior to departure at sea. Geographically, the villages surrounding the port may span multiple sub-districts or even districts where the sampled port is located. Other ports in the vicinity of the chosen port as EA (enumeration area) were not taken into account.

2. **Creation of a list of sampled RTs utilizing the port facilities of the sampled port.** RTs from the list in Step 1 were selected randomly to obtain the RT sample. When the number of households in the selected RT was too small to meet the required sample size, additional RTs were included to achieve the target sample size. In this case, the extra RT was randomly chosen by selecting the RT with the

14 This information is in the possession of the port authority in accordance with the Fisheries Management Area of the Republic of Indonesia (Wilayah Pengelolaan Perikanan Negara Republik Indonesia – WPPNRI), as per the regulation issued by the Ministry of Marine Affairs and Fisheries under Ministerial Regulation No. 18/PERMEN-KP/2014.

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subsequent serial number. If necessary, this process was repeated until the household sample target was fulfilled.

3. **Creation of a list of households from the randomly selected RTs obtained in Step 2.** The information about the households in the RT was sourced from the local village government or the RT head in each selected RT. After acquiring a list of households from the local authority, the research team selected all households with at least one member who had worked in the fishing sector in the past three years and was present and available for the interview.

4. **Sample households were chosen from the list obtained in Step 3.** Households were selected randomly from this list. The number of households chosen in each administrative area was determined by the targeted number of interviews for that area and the number of smallest administrative areas (RT/dusun/lingkungan) present. For example, to achieve 197 interviews in an area with 20 RT/dusun/lingkungan, it was aimed to focus on approximately 10 households in each RT.

5. **Selection of the household member to be interviewed.** Finally, for each selected household, the team made a list of household members older than 15 years old working in the fishing industry and used the Kish grid method to select one person to be interviewed in each household.

The final sample consisted of 3,396 workers, 2,241 (66 per cent) selected from vessel units, and 1,155 (34 per cent) from household units.

▶ Table 2. Characteristics of fishers and vessels in the vessel-based and household-based samples

	Vessel-based sample		Household-based sample	
	No	%	No	%
All workers	2 241	100	1 155	100
Fishers in small vessels	370	16.5	782	67.7
Fishers in medium vessels	1 047	46.7	303	26.2
Fishers in large vessels	824	36.8	70	6.1

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

As previously mentioned, different sampling approaches were utilized at various ports. Specifically, a household-based sample was used for ports with small fishing activities, while a vessel-based sample was employed for ports with larger vessels that are more commercial or industrial. There was only one exception, with one port using both household and vessel-based samples.

Indonesian national regulations, fisheries laws, and maritime policies issued by the Indonesian Government, mainly through the Ministry of Maritime Affairs and Fisheries (Kementerian Kelautan dan Perikanan – KKP), classify vessels as small, medium or large based on gross tonnage (GT). Typically, vessels are considered small if they are less than 10 GT, medium if they are between 10 GT and 30 GT, and large if they exceed 30 GT.[15]

Small vessels are generaly operated by individual fishers who primarly fish for subsistence or local markets and operate close to shore or in shallow waters. In contrast, medium vessels are typically managed by individuals or small cooperative while large vessels are typically operated by individuals or commercial companies involved in industrial fishing.

Fishers operating on small vessels were mainly identified through household sampling (68 per cent), while those on medium and large vessels were primarily sampled via vessel-based methods (78 and 92 per cent respectively). Table 4 indicates that the vessel-based sample encompasses larger vessels that remain at sea for extended durations and typically have a larger crew, most of whom are employees.

The forthcoming sections of this report will provide results categorized by vessel size: small vessels (below 10 GT), medium vessels (between 10 and 30 GT), and large vessels (over 30 GT). The numbers presented will also be weighted to represent the fisher workforce in the 18 ports.

Table 3 indicates that the sample is almost equally distributed among small, medium and large vessels. The sample of 3,396 fishers represents a weighted fisher workforce of 95,154 individuals, with a distribution between small, medium and large vessels that mirrors the unweighted sample. This is intended to reflect the total population of fishing workers in the ports included in the sample.

15 However, the classification of vessel size differs depending on the purpose and the authority. For vessel identification, the vessel's size determines the responsible authority, and the requirements differ slightly. Vessels under 5 GT do not require a fisheries license. Vessels between 5 and 30 GT require a license from the provincial government, while those above 30 GT must obtain a license from the national government (KKP). Almost 80 per cent of the sampled small vessels have a GT of 5 or less.

▶ Table 3. Weighted and unweighted sample of fishers, by size of vessels

	Unweighted		Weighted	
	Number	%	Number	%
All workers	3 396	100	95 154	100
Small vessels	1 152	33.9	32 746	34.4
Medium vessels	1 350	39.8	34 106	35.8
Large vessels	894	26.3	28 302	29.7

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Table 4 illustrates the primary characteristics of vessels classified by size group, utilizing sampling weights. The small vessels have a tonnage below 10 and an average tonnage of 4.3. The distribution within this group indicates that 52.2 per cent of vessels possess a tonnage under 5. The small vessels have an average crew of four members, are at sea for an average of 5.7 days, and have a low proportion of employees (41.5 per cent) as workers are often connected by family ties. The medium vessels, with a tonnage greater than 10 and less than 30, have an average crew of 13 people, of which 93.9 per cent are employees, and remain at sea for an average of 26.9 days. Lastly, the large vessels exceed a tonnage of 30, featuring an average crew of 24 workers, with 98.4 per cent being employees, and stay at sea for an average of 113.8 days.

▶ Table 4. Main characteristics of vessels, by vessel size

	All	Small vessels	Medium vessels	Large vessels
Average GT	39.7	3.5	25.8	94.5
Number of days at sea	73	6	41	174
Average number of crew members	13	4	13	24
Proportion of employees	71.9	24.8	95.0	98.4

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3

Findings of the survey

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3. Findings of the survey

3.1 Demographic characteristics

Almost all fishing workers surveyed are citizens of Indonesia, with an average age of nearly 40 years (table 5). Young workers aged less than 25 are more likely to be employed on large and medium-sized vessels than small ones. Small vessels tend to have the oldest fishers, with an average age of 49 and a significant proportion of fishers over 65 years old. Interestingly, these small vessels also report having fishers on board younger than 15 years. The demographic characteristics of fishers operating on small vessels are likely to be influenced by the informal nature of their businesses, which are often family-run.

▶ **Table 5. Fisher age distribution, by vessel size**

Age	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
< 25	12 025	12.6	2 288	7.0	4 725	13.9	5 011	17.7
25-49	61 863	65.0	19 251	58.8	22 974	67.4	19 639	69.4
50-64	17 656	18.6	9 338	28.5	5 025	14.7	3 292	11.6
65+	3 611	3.8	1 869	5.7	1 381	4.1	360	1.3

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3.2 Education and training

On average, only one in five fishers in the selected ports possess an education higher than secondary school (17.8 per cent), with a greater proportion of workers having such education in large and medium vessels and the lowest proportion in small vessels (table 6). Formal education in marine fishing is crucial in Indonesia as it enhances productivity by employing sustainable fishing methods and modern technology to maximize yields. It improves safety by equipping workers with knowledge of maritime hazards, emergency protocols, and safe vessel operation. Moreover, it empowers fishers to understand their rights, including fair wages and contract terms, protecting them from exploitation and ensuring better working conditions. However, some studies indicate that small vessels operating in coastal fishing communities often contend with low levels of education and inadequate socio-economic conditions (Masri 2017).

The Indonesian Government has acknowledged the necessity of investing in marine fishing skills to improve the sector's productivity, safety and sustainability. Presidential Regulation No. 18 of 2019 ratified the International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F 1995) to achieve international recognition for the certification of fishing vessel crews issued by the Indonesian Government. STCW-F 1995 is one of the International Maritime Organization's (IMO) standards used worldwide as benchmarks for training, certification and security of fishing vessel crews. However, it only governs fishing vessels that are 24 metres or longer, while vessels measuring

less than 24 metres, referred to as "non-conventional fishing vessels", are required to adhere to the regulations with adjustments as per the norms in STCW-F 1995.[16]

Recent studies have underscored the necessity for the Indonesian Government to implement more effective vocational education programmes that address the specific demands of the fishing industry. The lack of formal education poses a significant concern for small-scale capture fishers, whose competencies are rooted in knowledge and skills passed down through generations. The historically low level of formal education among the fishing workforce has been a persistent issue, with the Indonesian workforce falling behind its counterparts in neighbouring countries such as Malaysia, Singapore and Thailand in terms of overall competitiveness when Indonesian citizens pursue employment in the sector abroad (Pramoda et al. 2021).

▶ Table 6. Demographic characteristics of fishers, by vessel size

	Male	Average age	Education higher than secondary
	(%)	(years)	(%)
All workers	99.9	39.9	17.8
Small vessels	99.9	43.9	13.5
Medium vessels	100	39.0	18.9
Large vessels	100	36.4	21.5

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3.3 Status in employment

The employment status of fishers on board is linked to the size and operation of the vessels. Small-scale fishing vessels often function as a family business and typically hire small crews made up of family members or local community members. In these contexts, fishers are more likely to work for their own businesses without a dependent crew (40 per cent) or to engage in family business activities (12 per cent). However, violations of decent work standards can occur on these vessels due to informal work environments and challenges arising from a lack of resources, as well as outdated vessels and technologies.

Fishers on medium and large vessels typically have more structured and formal employment relationships, with most crew members being employed as employees on board (95 and 98 per cent respectively) rather than other employment statuses (table 7). On medium and particularly large vessels engaged in commercial and industrial fishing, work relationships tend to be more formalized. Crew members are assigned specific roles, and established hierarchies exist. However, on these vessels, an imbalance of power may arise between employers and employees, especially when fishers have low levels of education and rely heavily on their employers for financial stability. This imbalance can lead to situations where fishers find it difficult to negotiate wages, work hours and onboard conditions. These challenges are further compounded when fishers perceive they have no alternative employment opportunities or, in extreme cases, when they are coerced into working.

16 The FAO (2020) estimates vessels of 24 metres in length overall (or LOA) to be approximately equivalent to 100 GT.

▶ **Table 7. Status in employment, by vessel size**

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
Work as employee	68 375	71.9	8 114	24.8	32 407	95.0	27 853	98.4
Work for own business by hiring a crew (employer)	7 918	8.3	7 299	22.3	562	1.7	57	0.2
Work for own business without hiring a crew (own-account worker)	13 254	13.9	13 254	40.5	0	0.0	0	0.0
Work in family business activities without a crew	17 656	18.6	9 338	28.5	5 025	14.7	3 292	11.6
(contributing family workers)	4 902	5.2	4 049	12.4	733	2.2	121	0.4
Work helping family members who work for others on a vessel	705	0.7	30	0.1	404	1.2	271	1.0

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3.4 Migration

Labour migration, defined as the movement of individuals across regions or countries in search of employment opportunities, has become a prevalent phenomenon in contemporary society. The migration of workers from one area to another for employment is increasingly viewed as a normal aspect of the global labour market. Various factors drive labour migration in Indonesia, with economic reasons being the primary motivator (Urbanski 2022). Factors influencing individuals' decisions to migrate include the lack of job opportunities, low wages, poor financial conditions, family debts, social insecurity, and discrimination; these are often the primary causes of migration (Khan et al. 2023). Alongside economic incentives, factors such as social, cultural, environmental, health, educational opportunities, and transportation infrastructure also play significant roles in shaping migration patterns (Thet 2014).

Worldwide, in the context of marine fisheries, fishers often engage in either internal or international migration as part of their livelihood strategies. Migration for fishers is typically temporary, ranging from several days to weeks or months; however, in some instances, it may also be permanent. Fishers generally migrate from their place of residence to fishing grounds, which are sometimes located far from home. This migration is regarded as a coping mechanism to address socio-economic challenges and to follow the migratory patterns of fish that make up their target catch (Wanyonyi et al. 2016; Asiedu et al. 2022). In addition to moving from residential areas to fishing grounds within the same region, it is also common for fishers to migrate to different coastal regions, whether nationally or internationally, to pursue employment opportunities in the fishing industry.

The findings of the survey indicate that over one-third of fishers in the selected ports (35 per cent or 32,885 fishers) migrated internally for work – moving between districts or cities, either within the same province or across provincial boundaries – while only a small minority (less than 0.1 per cent) were international migrants, having moved across country borders.

The limited number of foreign workers on fishing vessels is due to the relatively strict regulations regarding the employment of foreign workers in Indonesia, as outlined in Law No. 13 of 2003 concerning Manpower, Government Regulation Number 34 of 2021 relating to the Use of Foreign Workers, and the Regulation of the Minister of Manpower of the Republic of Indonesia Number 8 of 2021. These three regulations specify the positions that may be held by foreign workers, the criteria for foreign workers to occupy those positions, and the prohibition on individual employers hiring foreign workers. Additionally, the regulations stipulate that the employment of foreign workers must consider the conditions of the domestic labour market, which does not seem to be in demand for fishing workers.

Various migration patterns emerge for fishers, depending on vessel size and operation. On small vessels, over 94 per cent of workers (30,801 fishers out of 32,746 working on small vessels) did not migrate, which indicates the predominance of local recruitment for small-scale vessels. Fishing workers on these vessels generally live near the port, with most staying at sea for only one day or a few days and not needing to relocate to another district or city for fishing work. The focus group discussions highlighted a familial connection among many of the workers on the small fishing vessels. A significant number of these workers were related to the owners or employers of the vessels, often being children, siblings, cousins, or other close relatives. Their proximity to the port allowed them to remain close to their families while working. This relationship between the workers and their employers likely influenced their decision not to migrate, as they preferred to stay near their families and be able to return home daily after work. This contrasts with internal migrant workers, who are often motivated by the need to find employment opportunities outside their home regions, driven by economic factors such as higher wages or better job security.

Unlike fishers working on small vessels, over one-third of those employed on medium vessels (36 per cent or 12,198 fishers) have migrated nationally for fishing work. To the contrary, workers on large vessels show different results, with more than two-thirds (66.2 per cent or 18,742 fishers) having internally migrated The internal migrants reside in districts or cities distinct from the port locations. For example, fishing workers operating at PPS Cilacap predominantly originate from areas such as Pemalang, while those at PPN Benoa come from various regions including Central Java, West Java, and East Nusa Tenggara. Fishing workers at PPP Tegalsari primarily hail from Pemalang, Brebes, Pekalongan and Indramayu, among others.

▶ Table 8. Fishers (all employment statuses) who migrated for the job, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	95 154	100	32 746	100	34 106	100	28 302	100
Internal migrants	32 915	34.6	1 945	5.9	12 198	35.8	18 772	66.3
No migration	62 211	65.4	30 801	94.1	21 880	64.2	9 530	33.7
No answer	28	0.0	0	0.0	28	0.1	0	0.0

Note: A few internal migrant workers were Indonesian return migrants.

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3.5 Recruitment practices

Studies conducted across various countries and sectors demonstrate that migrant workers are particularly vulnerable to obtaining jobs with decent work deficits and, in the most severe instances, may be subjected to forced labour. One practice that exacerbates this vulnerability is the requirement for migrant workers to pay recruitment fees and related costs to secure their job placements. These fees can be imposed by employers, recruiters or travel intermediaries. In some cases, corrupt officials may also demand bribes or kickbacks. Consequently, many workers incur substantial debt due to these fees, which can result in situations of debt bondage.

The *ILO General Principles and Operational Guidelines for Fair Recruitment and Definition of Recruitment Fees and Related Costs* state that "no recruitment fees or related costs should be charged to, or otherwise borne by workers or job seekers". The terms "recruitment fees or related costs" encompass any fees or expenses incurred during the recruitment process necessary for workers to secure employment or placement, irrespective of the manner, timing or location of their collection (ILO 2019).

This principle is further enshrined in the Work in Fishing Convention, 2007 (No. 188), specifically Article 22, paragraph 3(b), which mandates that "Each Member shall, using laws, regulations or other measures: (b) require that no fees or other charges for recruitment or placement of fishers be borne directly or indirectly, in whole or in part, by the fisher." Similarly, the Private Employment Agency Convention, 1997 (No. 181) at Article 7 mandates that "Private employment agencies shall not charge directly or indirectly, in whole or in part, any fees or costs to workers."

The regulation of recruitment fees, a critical component of the fair recruitment principle, is also integrated into national labour laws. For instance, Article 38, paragraph (1) of Law No. 13 of 2003 on Manpower explicitly prohibits recruitment agencies from charging any placement fees, whether directly or indirectly, in whole or in part, to workers or employers. Despite these clear national and international regulations, significant challenges remain in ensuring compliance with these principles in practice.

The 2024 survey indicates that a substantial proportion of fishers in Indonesia are still burdened by recruitment costs, even though such fees should not be imposed upon them. According to the survey, 61.5 per cent of internal migrant fishers employed as employees (or 19,361 fishers) reported incurring recruiting fees and related costs to secure their employment. Further analysis by vessel size reveals that internal migrant employees recruited to work on medium-sized vessels are the most likely to pay recruitment fees and related costs. Of these vessels, seven out of 10 internal migrant employee fishers (or 8,597 fishers) have paid recruitment fees or related costs. Internal migrant employees working on small vessels are at the second highest risk of paying recruitment fees and related costs (65.5 per cent or 807 internal migrant employees), even though this translates into a low number of workers due to the limited presence of internal migrant employees on small vessels. Additionally, 53.9 per cent of internal migrant employees (or 9,954 fishers) working on large vessels paid recruitment fees and related costs, even though this results in the highest number of workers paying fees and related costs due to the significant prevalence of internal migrant employees on large vessels (see table 9).

These survey data highlight a significant gap in fair recruitment practices in Indonesia's fishing sector, with respect to ILO Conventions Nos. 188 and 181. This raises concern about the enforcement of Law No. 13 of 2003, which largely reflects the principles in the two Conventions. Despite the legal framework that prohibits imposing recruitment fees on workers, the reality is that many fishers are still required to cover these costs. In some instances, workers even resort to borrowing money to pay these fees before they can commence their work in fishing. This situation not only contravenes the principles outlined by the ILO and national labour law but also perpetuates a cycle of financial vulnerability for these workers. The ongoing presence of such practices calls into question the effectiveness of labour oversight and enforcement mechanisms in ensuring that fair recruitment standards are upheld in the fishing sector.

Recruitment fees and related costs are defined in the principles and guidelines as any fees or costs incurred during the recruitment process for workers to secure employment or placement, regardless of how, when, or where they are imposed or collected. Recruitment fees include expenses for recruiting and placement services. Recruitment-related costs refer to expenses that are integral to recruitment and placement across national borders or within them. These costs encompass administrative expenses, medical costs, insurance, travel and accommodation expenses, costs for training and orientation, costs for skills and qualifications, and equipment expenses, among others.

The survey categorizes the recruitment fees and related costs into four components: travel costs linked to reaching the place of work, preparation costs required to begin employment, fees related to individual brokers or agencies, and a final category of residual costs termed "other costs". Travel costs encompass expenses incurred from the fisher's residence at the time to the job destination. For instance, this includes bus or flight tickets, border crossing fees, and food and accommodation during travel. Preparation costs cover any expenses necessary prior to commencing the job. Examples include visa costs, passport fees, and other documentation such as contract preparation, mandatory tests or training, pre-departure training, basic safety training (BST), police certificates, health tests, vaccinations, travel and health insurance, equipment, and fisher's books. Costs associated with individual or agency brokers include fees charged by public or private recruitment agencies, placement fees, and similar charges. Lastly, the residual category of "other costs" encompasses any additional expenses linked to the recruitment or placement of workers, such as costs for gifts, bribes or other payments, interest on borrowed money, fees for debts incurred to secure or start the job, and other related expenses.

Fishers incur the costs whether they pay them directly or if someone else covers them (such as employers, brokers, family or friends), provided these costs create a debt for the worker.

This report analyses the recruitment fees and related costs, focusing on migrant fishers working as employees, who are largely internal migrants.[17] They represent a workforce of 31,482 in the 18 ports included in this survey, most of whom are employed on large and medium vessels (see table 9). The survey revealed that the most common recruitment costs incurred by migrant fishers working as employees are travel costs, followed by preparation costs. Other costs are less frequently incurred. Overall, travel costs are borne by more than half of the migrant fishers working as employees (58 per cent), with similar trends across vessel sizes. Travel costs are incurred by nearly 70 per cent of migrant employees working on medium-sized vessels, 65 per cent of those employed on small vessels, and half of the migrant employees working on large vessels. The number of migrant fishers who are employees and pay for preparation costs is lower but still significant, with a total of 18 per cent of workers covering these expenses. These preparation costs include the expense of required documents and equipment, such as fishing rods, needed for work.

The survey also indicates that only 2.2 per cent found their jobs through recruitment agencies or brokers. The low proportion of migrant fishers who work as employees and pay costs related to individual or agency brokers reflects the prevalence of informal recruitment mechanisms used in Indonesia's fishing sector, particularly in small and medium vessels. However, brokers are employed to secure jobs in some ports, such as Bitung, Benoa, and Nizam Zachman, especially for those seeking work on fishing vessels for the first time.

Those who did not use any brokers or recruitment agencies primarily found their employment as fishing workers through family or friends (more than 73 per cent) or by approaching the captain directly. This may help explain the presence of a significant proportion of migrant fishers working as employees who incur additional costs such as gifts, bribes, interest on borrowed money, and fees for any debts to secure

17 While workers in other employment statuses (such as those working for family members or running their own business) may incur some costs related to starting a new job, these do not constitute proper recruitment fees and are not relevant when assessing whether a fair recruitment process occurred between the worker and the employer or recruiter. For these reasons, this analysis focuses solely on employees.

or commence their jobs. Nearly 5 per cent of migrant fishers employed in this manner have paid these types of costs, with a slightly higher prevalence among workers on small and medium vessels, confirming the prominence of these costs in more informal settings.

▶ Table 9. Recruitment fees and related costs borne by migrant fishers working as employees, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
Fishers who have incurred recruitment fees and related costs for ...								
All migrant workers working as employees	31 482	100	1 235	100	11 777	100	18 469	100
... travel costs	18 224	57.9	806	65.2	8 220	69.8	9 197	49.8
... preparation costs	5 584	17.7	97	7.9	2 158	18.3	3 329	18.0
... costs related to individual or agency brokers	814	2.6	0	0.0	63	0.5	751	4.1
... other costs	1 511	4.8	75	6.1	652	5.5	784	4.3
... any reason related to recruitment	19 363	61.5	806	65.2	8 595	73.0	9 962	53.9

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Another way to capture the burden posed by recruitment costs for workers is through the measurement of SDG indicator 10.7.1, which reflects the recruitment costs borne by employees as a proportion of their annual income earned in the country of destination. As the survey recorded both the annual income of migrants and the recruitment-related fees and costs mentioned above, it was possible to calculate this indicator. As noted earlier, the results are presented for the subset of employees who have migrated specifically to start their jobs.

▶ Table 10. SDG indicator 10.7.1. on recruitment fees and related costs as a proportion of annual earnings, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	Months	No.	Months	No.	Months	No.	Months
SDG 10.7.1.	18 089	1.7	686	9.9	8 247	0.4	9 156	2.3

Note: The difference between the sample of those who paid any recruitment-related fees (19,363 in table 9) and those for whom the SDG 10.7.1 indicator could be calculated (18,089 in table 10) comes from missing values in reported amounts of recruitment-related costs.

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.


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Overall, employees who reported having paid recruitment costs must repay an amount equivalent to 1.7 months of their annual earnings. For smaller vessels, this figure is significantly higher, at around 9.9 months. This implies that workers would need to work for almost a year merely to repay their recruitment fees and related costs – without earning money for themselves or their families. Recruitment fees and related costs represent a substantial burden for these fishers, who may become deeply indebted merely to commence their work.

It is worth mentioning that these costs are significant, considering that they pertain largely to internal migrant employees, as fishing in Indonesia is primarily carried out by national workers and only a tiny proportion of fishers in the sampled ports are international migrants. Studies on recruitment costs and related fees usually focus on international migrants, who encounter a variety of expenses linked to international recruitment. However, this survey underscores that national workers are not exempt from these challenges. They face considerable vulnerability due to the fees and costs they must incur for their recruitment.

3.6 Working conditions:

3.6.1 Work contract status

Although numerous studies suggest that most fishers in Indonesia are small-scale operators, a considerable number also work as employees on vessels they do not own. In the 18 ports sampled for the survey, there are 68,375 employees (see table 11). For these fishers, working conditions primarily depend on their employers.

According to ILO Convention No. 188, Article 20, vessel owners are responsible for ensuring that each fisher has a written work agreement signed by both the fisher and the fishing vessel owner or by an authorized representative of the fishing vessel owner, providing decent work and living conditions on board the vessel as required by this Convention. Article 18 specifies that the fisher's work agreement, a

copy of which shall be provided to the fisher, must be carried on board and made available to the fisher and, in accordance with national law and practice, to other concerned parties upon request.

In Indonesia, a Fishers' Work Agreement, referred to as "Perjanjian Kerja Laut" (PKL), is a formal contract between a shipowner or employer and a fisher. This agreement outlines the terms and conditions of employment for individuals working aboard vessels, including their rights and obligations. The PKL serves as a legal framework to ensure fair treatment and protection for fishers, detailing aspects such as wages, working hours, health and safety measures, and procedures for dispute resolution. The Indonesian Government requires all fishers to have a valid PKL before starting employment on any vessel. This requirement is part of broader efforts to protect maritime workers' welfare.

The obligation of the Fishers' Work Agreement (PKL) is legislated in Government Regulation No. 27 of 2021, as specified in Article 169, for crew members of Indonesian-flagged fishing vessels operating in the Fisheries Management Area of the Republic of Indonesia (WPPNRI), on the high seas, and/or within the jurisdictions of other countries, as well as on foreign-flagged fishing vessels. Additionally, Article 173 of the KKP Ministerial Decree No. 33 of 2021 mandates that the placement of fishing vessel crew is based on a PKL to ensure protection for both the fishing vessel crew and the owner or operator of the fishing vessel.

However, challenges continue to exist in enforcing and overseeing these agreements. Reports indicate instances in which fishers embark on voyages without formal PKLs, rendering them vulnerable to exploitation and lacking legal protection (Budiastanti et al. 2023). Findings from the survey corroborate this evidence. Table 11 reveals that only 9.3 per cent of all fishers possess written contracts, although this proportion rises with the size of the vessel. On small vessels, merely 1.5 per cent of workers have written agreements, underscoring this group's high degree of informality. Medium vessels perform slightly better, with 3.5 per cent of workers employed under written contracts, though this remains a minor segment. In contrast, large vessels demonstrate a higher level of formalization, with 18.4 per cent of workers having written contracts. Jones, Visser, and Simic (2019) described how companies adopt informal working practices in small-scale traditional fishing to minimize labour costs. These practices include the remuneration methods employed for fishers (*kas bon*), the absence of formal employment contracts, and compensation through profit-sharing mechanisms.

The survey indicates that verbal agreements are the predominant form of employment contracts across vessels of all sizes and continue to be a vital practice in employment relationships with fishers in Indonesia. The percentage of verbal agreements is highest on large (69.6 per cent) and medium vessels (62.6 per cent), followed by small vessels (49.2 per cent). Verbal agreements arise because the relationship between workers and the captain or owner of the vessel is founded on trust and direct communication in the absence of binding written documentation.

The condition of workers without either a written contract or a verbal agreement is deeply concerning, as it leaves 26.3 per cent of fishers in precarious and vulnerable employment situations. They face heightened risks of exploitation, job insecurity and unclear expectations. The prevalence of this condition is highest on small vessels, where nearly half (49.3 per cent) of workers lack any agreement, reflecting extreme informality. Medium vessels follow with 33.1 per cent of workers in this category, while large vessels have the lowest proportion at 11.6 per cent. This figure highlights a significant gap in employment practices, with fishers on small vessels being more vulnerable to risks arising from unclear and irregular working conditions. While the informal nature of working relationships on small vessels helps explain the low proportion of formal agreements, it is important to emphasize that this statistic pertains to fishers in an employer–employee relationship and not to contributing family members or other employment statuses that are more common among small-scale fishing.

▶ **Table 11. Fisher employees by type of work agreement, by vessel size**

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No	%
Employees	68 375	100	8 114	100	32 407	100	27 854	100
With written contract	6 388	9.3	121	1.5	1 136	3.5	5 131	18.4
With verbal agreement only	43 688	63.9	3 993	49.2	20 301	62.6	19 393	69.6
Neither written contract nor verbal agreement	17 980	26.3	4 000	49.3	10 740	33.1	3 240	11.6
No answer	320	0.5	0	0.0	230	0.7	90	0.3

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

The employer–employee relationship between the vessel owner and the crew members is characterized as a patron–client relationship, where the power dynamic between the vessel owner and the crew is unbalanced. The owner, who possesses the vessel, fishing equipment, and control over the vessel, holds a higher social status than the crew, who solely provide labour to assist with the fishing process. Informal relationships allow both the employer and the fishers to decide whether to cooperate or not, but the fishers find themselves in a more vulnerable position because of their social status and job dependency (Budiastanti et al. 2023).

3.6.2 Working time

According to ILO Convention No. 188, Article 14, working hours for fishers are defined in terms of minimum rest periods rather than maximum working hours. Specifically, the Convention stipulates that for fishing vessels operating for more than three days, the minimum rest period for crew members should not be less than 10 hours in any 24-hour period, and 77 hours over a seven-day period. Consequently, the maximum working hours per day should not exceed 14 hours, and the maximum working hours per week should not exceed 91 hours. Any hours worked beyond these thresholds are classified as overtime in the analysis of the survey results.

It is important to note that the Convention allows for some exceptions. The competent authorities may permit limited and temporary exceptions, but fishers shall receive compensation periods of rest as soon as practicable or establish alternative requirements that are substantially similar and do not jeopardize the safety and health of the fishers. Moreover, the skipper may require the fishers to perform any hours of work necessary for the immediate safety of the vessel, the persons on board, or the catch, or for assisting other boats in distress at sea. The skipper should provide an adequate period of rest as soon as possible after the normal situation has been restored.

For workers in the fishing industry, rest hours are essential for ensuring their safety, well-being and overall work–life balance. Despite the exceptions in the Convention, the general principle remains that workers should receive adequate rest to protect their physical and mental health. The regulation of working hours in Indonesian legislation appears fragmented, lacking a clear and consistent direction across various legal instruments. For example, Law No. 6 of 2023, Article 79, states that employees are entitled to one day of rest for every six working days in a week.

Additionally, the Regulation of the Minister of Manpower and Transmigration Number 11 of 2010 stipulates that fishers may work a maximum of 12 hours a day, excluding a one-hour break (Article 3, paragraph 2). Meanwhile, the Regulation of the Minister of Maritime Affairs and Fisheries of the Republic

of Indonesia No. 42 of 2016 stipulates that the working hours for ship crews should be a standard eight hours per day, with a maximum of 16 hours and a minimum of eight hours of rest daily.

Furthermore, Government Regulation No. 7 of 2000 concerning Maritime Affairs stipulates in Article 21 that the working hours of ship crews are set at eight hours per day, with one day off each week and designated holidays. Each crew member must have a minimum rest period of 10 hours within a 24-hour period, which may be divided into two segments, one of which should last no less than six hours, except in emergencies. Finally, young sailors, defined as those aged between 16 and 18 years, are prohibited from working more than eight hours a day and 40 hours a week.

The analysis of working hours in this report is provided with respect to Convention No. 188. According to the survey results, the average working hours are 10.5 hours per day and 66.2 hours per week. The median working hours are 11 hours per day and 70 hours per week. While the daily working hours do not vary substantially by vessel size, weekly working hours are greater on large vessels, with 71.6 hours per week, followed by medium vessels, with 68.4 hours, and small vessels, with 59.2 hours per week.

While the average working hours per day and week are within the Convention standard, they mask important variations among workers. A closer analysis of the data revealed that a significant portion of fishers engage in overtime, working longer hours each day (over 14 hours) or each week (over 91 hours). Overall, 15.8 per cent of fishers across the 18 surveyed ports worked more than 14 hours per day, while 11.3 per cent worked more than 91 hours per week (see table 12).

▶ Table 12. Excessive hours of work, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	95 154	100	32 746	100	34 106	100	28 302	100
Workers working more than 14 hours per day	15 045	15.8	4 985	15.2	8 226	24.1	1 834	6.5
Workers working more than 91 hours per week	10 710	11.3	2 153	6.6	6 283	18.4	2 274	8.0

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Excessive hours of work are more common on medium-sized vessels, where 24.1 per cent of fishers worked more than 14 hours a day, and 18.4 per cent worked over 91 hours a week. In contrast, fewer fishers worked excessive hours on large vessels, with only 6.5 per cent exceeding 14 hours a day and 8 per cent surpassing 91 hours a week. On small vessels, 15.2 per cent of fishers worked excessive hours of work each day, and 6.6 per cent worked excessive hours of work each week.

In-depth interviews conducted by the BRIN research team with several marine fishing workers revealed that working hours vary significantly depending on the type of fishing gear and system used. For example, large vessels using purse seines typically begin fishing in the evening or at night and continue until early morning. After deploying the nets, workers can rest while waiting for the fish to be caught. Around 11 p.m. the nets are hauled in and remain operational until 4 a.m. During the daytime, workers rest or repair their nets, and some may also fish with hooks, keeping the catch for their own use.

In contrast, small-scale fishers practising one-day fishing often leave in the late afternoon, around 5 p.m. and return the following day by noon, resulting in over 14 hours of work in a single day. During their time at sea, these fishers maximize their working hours, using the return trip to rest before continuing their work upon arrival.

This irregular pattern of work and rest highlights the inherent complexity of assessing working time in the fishing sector, where the boundaries between working hours and rest periods are often fluid. At times, rest periods may be used for work, while working hours may be spent resting, such as when waiting for fish to gather. As a result, the working hours for many marine fishing workers in Indonesia lack a clear distinction between work and rest time. This presents potential challenges in adhering to standardized labour regulations.

Overall, this finding indicates that while most Indonesian fishing workers tend to work within reasonable limits aligned with international standards, the nature of the work often requires a more adaptable approach to working hours and rest periods.

3.6.3 Methods of payment and earnings

Methods of payment

Workers in the marine fishing industry in Indonesia are paid through various methods, often tailored to the specific nature of their work and the economic practices of the sector. One common method is the share-of-catch system, in which workers receive a portion of the catch's value after deducting expenses such as fuel and maintenance. Others might be paid fixed wages, providing stability regardless of the catch. Additionally, lump-sum payments and performance-based bonuses are sometimes used to incentivize productivity. In some cases, workers also receive in-kind benefits, such as food, accommodation, or essential supplies, which supplement monetary payments. It is not uncommon for workers to be compensated through a combination of these methods. This diverse range of payment methods reflects the need to navigate the inherent unpredictability of fishing activities, striking a balance between the risks and rewards shared by workers and employers. Understanding these payment structures is crucial for grasping the economic conditions and challenges faced by workers in this sector.

According to Law No. 13 of 2003, Article 88, every worker has the right to receive an income that meets a decent standard of living. Therefore, payment systems in the fishing sector must ensure that methods such as share of catch and lump-sum payments adhere to the decent living standards established by the law. Additionally, Law No. 16 of 1964, Articles 2 and 3, stipulates that profit-sharing in the fishing industry must be equitable, with a minimum of 75 per cent of net results allocated to fishers using sailboats and at least 40 per cent for those using motorboats.

This report presents a comprehensive analysis of the remuneration methods used in the fishing industry in Indonesia, providing statistics on the prevalence of different payment methods, the value of payments received by fishers, and the deductions applied to their payments. The payments are reported in tables 13 and 14, indicating their value after deductions for taxes and social contributions. They include any wage advance payments received by the fisher, such as port allowances, but do not encompass lump sums that are not part of the regular payment, as these are accounted for separately. Instead, the payments include all other regular remunerations, including any portion of fixed wages that has been sent directly to the fisher's family, if applicable. Moreover, the payments are reported before any other deductions related to accommodation, food or recruitment costs, debts with the employer or recruiter, or other similar deductions. Deductions are estimated separately and reported in tables 18 and 19.

Table 13 indicates that two-thirds of fishers in the ports surveyed (or 62.7 per cent) are compensated solely through the catch-share system. This payment method is utilized by nearly all fishers employed on small vessels (90 per cent), whereas it is used less frequently on medium-sized (56.4 per cent) and large vessels (38.1 per cent).

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Table 14 illustrates that fishers compensated solely with catch-share earn an average monthly wage of 4,318,848 Indonesian Rupiah (IDR). Fishers on small vessels report the highest average payment with this method, at IDR 5,740,602, while those on medium vessels average IDR 4,053,813, and large vessels report an average of IDR 2,387,013. These data suggest that small vessels predominantly rely on catch-sharing as the main source of their earnings, resulting in a payment higher than that received by larger vessels, where this method is utilized less frequently. Conversely, the lower average payment for large vessels is likely attributable to the wider distribution of catch shares needed to cover operational costs or compensate a larger crew.

The second most common payment method combines the share-of-catch system and performance-based bonuses. This approach is utilized to compensate 16.1 per cent of fishers, but it is more frequently employed to pay fishers working on medium (21.2 per cent) and large vessels (21.5 per cent). This combination provides additional incentives in the form of bonuses to promote productivity and performance. In contrast, only 6 per cent of small vessel fishers are compensated using this combination of methods, indicating a greater reliance on the catch-share system without bonus incentives for small-scale operations fishing.

Table 14 reveals that the average monthly earnings of fishers using this payment method amount to IDR 5,700,098. Fishers on large vessels earn an average of IDR 7,124,664, while those on medium-sized vessels receive approximately IDR 5,249,608. Fishers on small vessels earn an average of IDR 3,126,622. These data suggest that performance-based bonuses significantly complement the cash payment system on medium-sized and large vessels where they are employed, facilitating higher remuneration for fishers.

Table 13 illustrates that the combination of a lump sum at the end of the trip or of a predetermined period, along with a performance-based bonus, is used to compensate, on average, 9.2 per cent of fishers. This method is utilized more frequently on large (19.1 per cent) compared to medium vessels (9.4 per cent) and is rarely employed on small vessels (0.4 per cent). Table 14 presents the average payment for this method at IDR 4,756,201. Among the vessel sizes, medium-sized vessels report the highest average payment of IDR 6,414,739. Small vessels follow with an average of IDR 4,182,624, while large vessels have the lowest average at IDR 3,541,821.

A lump sum is used to pay, on average, 6.9 per cent of fishers, with higher proportions among medium (8.6 per cent) and large vessels (9.1 per cent). This method is less common on small vessels, where it is used to pay only 3.1 per cent of fishers (see table 13). Fishers paid by this method receive an average payment of IDR 5,313,191, with small vessels recording the highest average at IDR 8,288,162, followed by medium vessels at IDR 6,283,076 and large vessels at IDR 2,462,101 (see table 14).

These results reveal that small vessels heavily rely on the catch-share system as their primary payment method. In contrast, medium and large vessels are more likely to adopt a diverse range of payment methods, such as additional bonuses, lump-sum payments, and fixed wages. These differences reflect variations in operational scale, management structures, and the need for flexibility in payment systems across different categories of vessels.

Overall, the survey highlights employers' preference for compensating fishers through remuneration systems, enabling them to share the business risk with their employees. Indeed, only 4.5 per cent of fishers in the 18 ports surveyed are compensated with regular wages or a combination of regular wages and alternative payment methods. This proportion varies, with 11 per cent of fishers employed on large vessels, 3.5 per cent on medium vessels, and almost none on small vessels (see table 15). Table 13 illustrates that the most common payment methods involving regular wages are fixed wages alone and fixed wages combined with performance-based bonuses, although these options are not widely utilized. Table 14 highlights that payment methods differing from regular wages allow employers to share business risk with employees and enable employees to earn higher remuneration linked to their performance. Fishers who receive a fixed wage tend to have the lowest average earnings among those employed on medium-sized vessels, and receive some of the lowest pay on large vessels. However, whether the workers receive bonuses is a key factor in determining higher earnings on large vessels.

Certain payment systems require that payments are paid only after several trips or voyages at sea to ensure that shared operational costs, such as fuel, maintenance or supplies, are covered first. Additionally, in some circumstances, fishermen's remuneration is also contingent upon the catch they sell, as payments are frequently linked to the market value of the fish.

While these systems are intended to help entrepreneurs manage cash flow in an industry with fluctuating revenues, they can create financial uncertainty for fishers, who already face risks associated with the instability of the catch. For example, in Oeba Port, adverse weather conditions can decrease the number of catches, which means crews may have to wait longer to receive their payments. In Ternate, inconsistent catches can also prolong the time it takes for crews to receive their wages. This uncertainty can render them vulnerable to substandard working conditions and compel them to continue working due to a lack of resources to seek alternative employment.

The survey assesses whether fishing workers have experienced withholding of payments by asking what would prevent them from leaving the vessel if they wished to. Approximately 2 per cent of workers indicated that they would not receive payment for the work they have already completed if they chose to leave the vessel. Binding workers to the vessel and the job through the non-payment of their owed wages severely limits their freedom to depart and exposes them to further vulnerabilities due to their lack of bargaining power.

▶ **Table 13. Most frequent combinations of methods of payment, by vessel size**

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	95 154	100	32 746	100	34 106	100	28 302	100
Catch-share	59 620	62.7	29 589	90.4	19 245	56.4	10 786	38.1
Catch-share and bonus	15 279	16.1	1 969	6.0	7 224	21.2	6 086	21.5
Lump sum and bonus	8 730	9.2	114	0.4	3 201	9.4	5 415	19.1
Lump sum only	6 527	6.9	1 029	3.1	2 920	8.6	2 579	9.1
Fixed wage and bonus	2 711	2.9	20	0.1	637	1.9	2 054	7.3
Fixed wage only	1 217	1.3	12	0.0	499	1.5	706	2.5
Other	1 069	1.1	14	0.0	379	1.1	675	2.4

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

The crew payment method in Indonesia's marine fishing sector often varies, mainly depending on the hierarchy and role of each crew member, such as the captain, KKM (motorboat chief), mate, and ABK (ship crew). The captain, who has the most significant responsibility in managing the vessel and its operations, usually receives a larger share of the catch and may even receive additional bonuses for successful vessel operations. The KKM, responsible for controlling the motorboat, also receives higher pay than the crew because of the crucial technical role. The mate, tasked with overseeing the vessel's safety, is often paid more than the crew because of the technical skills and responsibilities. Meanwhile, the crew who play a role in operational tasks such as catching fish and maintaining the vessel's equipment usually receive a smaller share of the catch, with payments being made daily, weekly or monthly according to the system implemented by the vessel owner.

For example, in the Labuhan Lombok area, the captain can receive up to 5 per cent of the gross catch, while the crew receive only a small portion. In other areas, such as in several coastal areas in Sulawesi, the profit-sharing system also applies a similar division, where managerial roles such as captains, KKM, and Mualim receive a larger share of the catch compared to ABK, who focus more on physical work on the ship. However, different conditions are often found in other areas. For example, in PPN Kwandang, one ship was found to apply two payment methods. For example, the profit-sharing system on one vessel is applied evenly, including the captain, who receives the same share. After that, the captain will also receive a fixed wage from the capital owner according to the agreed agreement. In addition, there are cases where, if the sea fish catch is abundant, the captain will receive an additional bonus from the capital owner. The amount of this bonus depends on the decision of the capital owner and is not determined with certainty, providing flexibility in determining incentives based on the catch obtained. These examples, which emerged from the qualitative research that complemented the survey data collection, highlight the complexity of the payment system of the marine fishing sector in Indonesia.

▶ Table 14. Fishers' earnings, by method of payment and vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	Sample size	IDR	Sample size	IDR	Sample size	IDR	Sample size	IDR
Average amount the fisher is being paid if paid with ...								
Catch-share	59 620	4 318 848	29 589	5 740 602	19 245	4 053 813	10 786	2 387 013
Catch-share and bonus	15 279	5 700 098	1 969	3 126 622	7 224	5 249 608	6 086	7 124 664
Lump sum and bonus	8 730	4 756 201	114	4 182 624	3 201	6 414 739	5 415	3 541 821
Lump sum only	6 527	5 313 191	1 029	8 288 162	2 920	6 283 076	2 579	2 462 101
Fixed wage and bonus	2 711	5 219 221	20	NA	637	3 613 170	2 054	5 655 560
Fixed wage only	1 217	3 220 891	12	NA	499	2 849 881	706	3 426 720
Other	1 069	8 537 102	14	NA	379	6 258 093	675	9 806 737

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

▶ Table 15. Fixed wage: Share of fishers and average amount

	Worker receives fixed salary regularly paid		Average amount of fixed salary	
	Sample size	%	Sample size	IDR
All workers	95 154	4.5	4 316	4 064 639
Medium vessels	34 106	3.5	1 178	2 687 977
Large vessels	28 302	11.0	3 126	3 505 940

Note: Small vessels are not reported, because the number of observations for workers who received a fixed salary is too low and the results cannot be meaningfully interpreted.

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

As illustrated in table 16, bonus payments are given to 25.6 per cent of fishers, with an average of IDR 718,300 per month. Workers on large vessels recorded the highest proportion of bonus recipients at 41.6 per cent, with an average bonus of IDR 909,782. On medium vessels, 31 per cent of fishers received bonuses, with an average of IDR 703,032. Conversely, large vessels utilize bonuses to sustain and enhance worker performance.

▶ **Table 16. Bonus: Share of fishers and average amount, by vessel size**

	All workers		Small vessels		Medium vessels
	Sample size	%	Sample size	IDR	%
All workers	95 154	25.6	24 344	718 300	16.7
Small vessels	32 746	6.1	1 995	542 086	22.4
Medium vessels	34 106	31.0	10 584	703 032	14.5
Large vessels	28 302	41.6	11 765	909 782	17.7

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

In-kind payments

In-kind payments, such as food, accommodation, or equipment, also play an essential role in the compensation package for workers in the marine fishing sector. According to Article 27 of Convention No. 188, "each member country shall adopt laws, regulations or other means requiring that food and the water shall be provided by the fishing vessels owner at no cost to the fisher. However, in accordance with national laws and regulations, the cost can be recovered as an operational cost if the collective agreement governing a share system or a fisher's agreement so provides."

The survey asks workers to report whether the employer provides any in-kind payments that were not included in the monetary pay amount reported in the previous tables, such as free meals, a share of the catch in kind, or accommodation on the vessel or when in port. If so, the fisherman is asked how much it would have cost them to cover the total in-kind payment. Table 17 indicates that 30.8 per cent of fishers at the sampled ports receive in-kind payments with an average value of IDR 769,409 per month, corresponding to 26 per cent of their monthly payment. Workers on large vessels account for the highest proportion of recipients at 52.7 per cent, receiving an average monthly in-kind payment of IDR 881,900 (or 30 per cent of their monthly payment). Workers on medium vessels follow in second place, with 35.3 per cent receiving in-kind payments and an average value of IDR 875,170 (or 21 per cent of their monthly payment). In contrast, only 7.1 per cent of workers on small vessels receive in-kind payments, with a significantly lower average value of IDR 551,157 (or 22 per cent of their monthly payment).

These in-kind payments likely play a crucial role in supporting workers' well-being, particularly those working on large and medium vessels, often away from home for extended periods. For instance, in-kind payments such as food and accommodation can help reduce the living expenses of workers while at sea. This is consistent with findings from qualitative research, where large vessels often provide food and accommodation as part of their compensation package for workers. On the other hand, small vessels, which typically operate on a smaller scale, deliver in-kind payments less frequently, likely reflecting either a lower need due to short time at sea or financial constraints and limited operational capacity.

▶ **Table 17. In-kind payments: Share of fishers and average amount, by vessel size**

	Worker receives in-kind payments		Average amount of in-kind payments (monthly equivalent in IDR)		In-kind payment as share of monthly earnings
	Sample size	%	Sample size	IDR	%
All workers	95 154	30.8	29 299	769 409	25.7
Small vessels	32 746	7.1	2 338	551 157	22.1
Medium vessels	34 106	35.3	12 045	875 170	20.7
Large vessels	28 302	52.7	14 916	881 900	30.3

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Deductions

The payments reported for fishers in tables 14 and 15 are shown before any deductions for accommodation, food, recruitment costs, debts to the employer or recruiter, or other related expenses. However, these deductions do affect the net income of fishers in the marine fishing sector, as their earnings are decreased to cover the cost of services provided by the employer. The 2024 survey asks fishers to indicate whether any money has been regularly deducted from their payments for any reason. If so, they are also requested to specify the reasons for these deductions and the respective amounts.

Payment deductions are reported by two main categories: deductions for recruitment-related reasons and deductions for other reasons. The deductions for recruitment-related costs include expenses related to individual or agency brokers, costs for preparations necessary to commence the job (such as pre-departure training, medical check-ups, docents, etc.), travel expenses (such as train or airport tickets, accommodation costs while travelling, or costs of documents required to cross the border), and other costs related to recruitment that the worker may specify. Other deductions not associated with recruitment included regular deductions for accommodation, regular deductions for food, deductions for personal or other recreational needs (such as cigarettes, drinks, and so on), for PPE and work equipment, for on-board communication, for repayment of wage advances, for "guarantee money",[18] for money owed for the education of children or family members, weddings, funerals, social costs or other family needs, and for any other reason specified by the fisher. Table 18 reports deductions for recruitment-related costs and table 19 reports deductions for costs not related to recruitment.

Table 18 illustrates that deductions for recruitment-related costs vary across vessel categories, with 3.5 per cent of all workers experiencing deductions averaging IDR 481,820 per month (or 14.4 per cent of the monthly payment). Workers on large vessels recorded the highest proportion, at 8.2 per cent, with an average deduction of IDR 263,256 (or 10.8 per cent of the monthly payment). On medium vessels, 2.7 per cent of workers reported deductions, averaging IDR 442,996 (or 15.6 per cent of the monthly payment). In contrast, only 0.1 per cent of workers on small vessels encountered deductions for recruitment purposes. However, the average deduction in this category was the highest, at IDR 739,209. The higher proportion

18 "Guarantee money" refers to a fixed amount of payment provided to crew members, usually fishers, regardless of the amount of catch during a fishing trip. This term is often used in agreements between the boat owner or operator and the crew to ensure that the crew receives at least a minimum guaranteed income, even if the trip is not successful in catching a profitable haul. Guarantee money acts as a safety net, ensuring that crew members are compensated for their time, effort and risks involved, even in cases of poor fishing conditions or low catch volumes.

of deductions on large vessels indicates a more structured recruitment system, where recruitment costs are likely arranged through initial agreements between workers and vessel owners. Conversely, the higher average deduction costs on small vessels may stem from more significant recruitment costs directly charged to workers, which aligns with the limited operational scale of small vessels.

▶ Table 18. Payment deductions for recruitment: Share of fishers and amount, by vessel size

	Worker has payment deductions for recruitment		Average amount of payment deductions for recruitment (monthly equivalent in IDR)		Recruitment deductions as a share of monthly payment
	Sample size	%	Sample size	IDR	%
All workers	95 154	3.5	3 304	481 820	14.4
Medium vessels	34 106	2.7	933	442 996	15.6
Large vessels	28 302	8.2	2 331	263 256	10.8

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Table 19 shows that 25.3 per cent of all workers experienced deductions for reasons other than recruitment, with an average of IDR 1,944,405 per month. Fishers on large vessels recorded the highest proportion of fishers who experienced deductions not related to recruitment, at 50.3 per cent, with an average deduction of IDR 1,164,535. This was followed by 25.5 per cent of fishers on medium vessels, who reported an average deduction of IDR 2,038,295. In contrast, only 3.4 per cent of workers on small vessels reported pay deductions unrelated to recruitment. However, their average deduction amount was the highest among all categories, at IDR 2,630,386.

The most likely reasons for deductions on large vessels are “for repayment of wage advances” and “for money owed for the education of children, family members, weddings, funerals, social costs, or other family needs”. Following these, albeit with much lower proportions, are extra food and recreational needs, regular food, PPE and equipment, and accommodation. Conversely, the higher average value of deductions on small vessels reflects the burden on workers to cover operational costs or repay substantial debts.

▶ Table 19. Payment deductions for reasons other than recruitment: Share of fishers and amount, by vessel size

	Worker has payment deductions for other reasons		Average amount of payment deductions for other reasons (monthly equivalent in IDR)		Recruitment deductions as a share of monthly earnings
	Sample size	%	%	IDR	%
All workers	95 154	25.3	24 070	1 944 405	103.9
Small vessels	32 746	3.4	1 128	2 630 386	171.6
Medium vessels	34 106	25.5	8 712	2 038 295	124.1
Large vessels	28 302	50.3	14 231	1 164 535	85.7

Note: Share greater than 100% of the monthly earnings may indicate that deductions for recruitment fees and costs occur across several months. Recruitment deductions are reported by too small a number of fishers to provide statistics for this category.

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3.7 Social protection

Social security is a vital aspect of decent work, serving as a safety net for workers facing circumstances such as job loss or work-related accidents. Access to employment and health insurance is essential for all workers, but it is particularly critical for those in insecure and high-risk sectors, such as fishing.

Additionally, social security not only offers protection but also encourages workers to give their best effort. Those who feel secure are less anxious and more likely to perform at their highest potential, which enhances overall productivity. Moreover, providing stable income for workers positively impacts the economy by creating more predictable demand and furnishing companies with a flexible, productive workforce (ILO 2008).

Convention No. 188 outlines the need for comprehensive social protection for all workers, including those in the fisheries sector. Articles 35–36 of Convention No. 188 specify that countries must take steps according to their national context to ensure social protection for all workers in the fishing industry. Additionally, Article 36 emphasizes the importance of cooperation between countries, through both bilateral and multilateral agreements, to implement national practices that support this social protection. This protection should be universal, meaning it should cover all workers in the capture fisheries sector, regardless of nationality, and with a principle of equality. Notably, this may raise challenges for international migrant workers who may not have the right to social protection in the country where they work.

Convention No. 188, in Article 34, outlines the obligation of member countries to ensure social security protection for fishers who are ordinarily resident in the country's territory and their dependants, to the extent provided by national law, under conditions no less favourable than those applicable to other workers residing in the territory. Recognizing the challenges associated with ensuring social protection for all workers, the Convention, in Article 35, states that Member States should take steps, according to national circumstances, to progressively achieve comprehensive social security protection for all fishers who are ordinarily resident in their territory.

Although Indonesia has not ratified ILO Convention No. 188, its national laws include employment and health insurance provisions for all workers, including those in the fishing sector (see box 1). Under Indonesian law, the vessel owner is responsible for registering crew members with the Social Security Organizing Agency (Badan Penyelenggara Jaminan Sosial – BPJS) and ensuring that all workers are enrolled in the appropriate social security scheme. Employers are legally obliged to pay their portion of the contributions to the programmes, and failure to do so can result in fines or other sanctions. Fishers should receive their membership card, which includes a unique identification number (Nomor Induk Kependudukan or NIK) that can be used to access health services and social security benefits. Crew members can check their enrolment status and contributions with BPJS online portals or mobile applications.

Despite this comprehensive legal framework, implementing the social security protection scheme for fishermen encounters significant challenges, leading to limited coverage.

▶ Box 1. Social security provisions in Indonesia

Indonesian law states that every worker and their family have the right to obtain social security (Law No. 13 of 2003). The Indonesian National Social Security System (Sistem Jaminan Sosial Nasional – SJSN) was established under Law No. 40 of 2004. Law No. 24 of 2011 established the Social Security Organizing Agency (Badan Penyelenggara Jaminan Sosial – BPJS) that mandates:

- **BPJS Health (BPJS Kesehatan):** This is the health insurance programme that provides universal health coverage for all Indonesian citizens. The programme includes both contributory and non-contributory schemes, with the Government covering the underprivileged (see further details in Annex).
- **BPJS Employment (BPJS Ketenagakerjaan):** It supervises social security programmes related to employment, including Work Accident Insurance (Jaminan Kecelakaan Kerja – JKK), which offers benefits for work-related injuries or illnesses; Old-Age Insurance (Jaminan Hari Tua – JHT), which provides lump-sum payments upon reaching retirement age or in other specified circumstances; Pension Insurance (Jaminan Pensiun – JP), which delivers regular pension payments to participants upon retirement, permanent total disability, or to beneficiaries upon the participant's death; and Death Insurance (Jaminan Kematian – JK), which grants benefits to beneficiaries in the event of the participant's death (see further details in Annex)**.**

The law also stipulates that every Indonesian citizen and foreign resident employed in Indonesia for more than six months must engage in the relevant social security programmes. This comprehensive strategy aims to offer social protection for all workers in Indonesia.

Employers are required to register themselves and their employees with BPJS and to collect and forward the necessary contributions. The contribution rate for JK is 0.3 per cent of a worker's monthly salary, while that for JKK varies depending on the risk level of the job. However, proportional premiums do not apply to fishers. Fishers are part of the Work Accident Insurance (JKK) and Death Insurance (JK) schemes, bearing a premium of IDR 16,800 per month as Non-Wage Recipient (PBU) participants. The premium is paid prior to sailing and is determined by the number of months spent at sea. Except for Benoa, the monthly premium is paid proportionally in accordance with applicable regulations.

Several other legal instruments specifically regulate social protection in the fishing sector. **Article 34 of Law No. 7 of 2016** concerning the Protection and Empowerment of Fishermen, Fish Raisers, and Salt Farmers in Indonesia addresses the obligation to protect against business risks for fishing workers, fish farmers and salt producers. It mandates that the Government ensure that these workers are safeguarded against potential risks inherent in their professions. This includes implementing measures to mitigate the impacts of natural disasters, climate change, environmental degradation, and other challenges that may affect their livelihoods. The article emphasizes the Government's role in facilitating access to resources, technology and information to enhance the resilience and sustainability of these sectors.[1]

Regulation of the Minister of Marine Affairs and Fisheries No. 33 of 2021. Art. 183 mandates that social security for crews of fisheries vessels shall include at least occupational accident insurance to cover treatment and medication for such crews who are ill or injured while working on fisheries vessels; death insurance to provide financial support to the heirs and families of deceased fisheries vessel crews; and old-age insurance to provide living support to fisheries vessel crews and their families in case of termination of employment and/or inability to work any longer. Fisheries vessel owners or operators must register their employed fisheries vessel crews for social security (Art. 184), and vessel owners or operators may utilize insurance services, provided that the type of insurance benefits received by fisheries vessel crews is comparable to those of the social security administrator.

Note: [1] Law Number 7 of 2016 | LEXIKAN.

The survey reveals that most fishers are not enrolled in a social security programme, particularly emphasizing the low coverage of employment-related social security. Table 20 shows that 71 per cent of fishers in 18 ports lack employment-related social security. This lack of coverage correlates with the size of the vessels: 87 per cent of fishers on small vessels do not have employment social security, while the figures are 75 per cent for medium vessels and 48 per cent for large vessels.

The health social security scheme covers more fishers than the employment scheme. However, over half of fishers lack access to health social security, with minimal variation across vessel sizes.

It is crucial to note that a significant proportion of fishers are unaware of whether they are enrolled in either type of scheme. This underscores a problem of workers' awareness of their rights. As previously mentioned, fishers should receive a card with a unique identification number that allows them to exercise their rights when necessary. If they respond that they do not know, it may indicate that they either never received the card or received it but are not benefiting from the associated social protection schemes.

▶ Table 20. Social security coverage of fishers, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	95 154	100	32 746	100	34 106	100	28 302	100
Share of workers who do not have employment social security membership (BPJS Ketenagakerjaan)	67 658	71.1	28 423	86.8	25 634	75.2	13 601	48.1
Don't know / refused	1 740	1.8	106	0.3	746	2.1	908	3.2
Share of workers who do not have health social security membership (BPJS Kesehatan)	52 325	54.9	18 855	57.6	19 584	57.4	13 886	49.1
Don't know / refused	1 199	1.3	124	0.4	314	0.9	761	2.7

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Low participation in social security results in many fishers lacking financial security, healthcare, and support during emergencies, leaving them exposed to income instability and hazardous work conditions.

Uncovered fishers bear the full burden when work-related accidents occur. Although, as revealed in in-depth interviews, workers may receive compensation from the vessel owner in the event of an accident, it is important to emphasize that the amount provided is limited and depends on the owner's generosity. This is quite different from the assistance offered by BPJS Employment Insurance. When comparing the premiums paid for BPJS Employment Insurance, particularly for Death Insurance (JK) and Work Accident Insurance (JKK), it becomes evident that the premiums are quite low in relation to the potential benefits received (see Annex 2). This represents a significant advantage that should be communicated to both owners and workers in the fishing sector.

The qualitative research revealed that the main issue contributing to low participation in social security, particularly regarding employment-related social security, arises from several factors. Firstly, there is a lack of awareness among both workers and vessel owners about the importance and function of participating in the system. In an in-depth interview with one of the vessel owners in this study, it was

noted that: “Every job comes with its risks. Whatever happens, we must surrender ourselves to the Almighty. If it’s not our time, we won’t die.”

The findings of this study reinforce the idea that awareness of the significance of social security participation has not yet fully penetrated the minds of employers and workers. This resigned attitude has become deeply entrenched and is perceived as a longstanding truth. Consequently, understanding of the importance of social security is impeded. This phenomenon necessitates extensive socialization efforts to educate both employers and workers about the advantages of participating in the employment social security programme.

As revealed in this research, the lack of awareness among workers is also reflected in other studies, such as that by Triyono et al. (2019), which found similar outcomes among informal sector workers. To address this issue, a shift in mindset is necessary, which can only be accomplished through continuous education and socialization. This is especially vital in high-risk industries like fishing, where workers face considerable dangers, particularly if the vessels lack proper safety equipment.

Another critical factor contributing to the low participation in employment social security is the inadequacy of existing government interventions. While health social security (JKN) has garnered more widespread participation due to government subsidies for low-income families, the same cannot be said for employment-based social security. This underscores the urgent need for government action, particularly for low-income individuals and those in vulnerable occupations. However, it is insufficient for workers to merely receive BPJS Ketenagakerjaan cards without comprehending their purpose. To ensure the success of such interventions, the Government must implement comprehensive educational policies to raise awareness about the importance of participation in these programmes.

Multi-stakeholder collaboration is essential to increase employment social security coverage, including among government agencies, civil society organizations and vessel owners. The Indonesian Government has implemented the PERISAI or Expansion of Participation in Social Indonesia, a pioneering programme under BPJS Ketenagakerjaan that uses independent agents (PERISAI agents) at the community level to expand social security coverage, especially for informal and underserved workers, including fishers.

The results of the focus group discussion (FGD) in Donggala indicated that fishery workers have not yet developed an awareness of the importance and benefits of participating in the employment social security programme, despite the efforts made towards socialization. This relates to the fact that the number of participants in the socialization programme is still small and that those participating are not yet interested in becoming members. A community leader, who also works as a port employee and serves as a PERISAI agent for BPJS Ketenagakerjaan, stated: “The main issue is that while socialization efforts have been made, awareness remains low, resulting in a very small number of participants in BPJS Ketenagakerjaan” (Donggala, July 2024).

Given these issues, engaging vessel owners as key figures in socialization is an effective way to address the problem.


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3.8 Fundamental principles and rights at work

3.8.1 Safety on board

The safety and health conditions of workers in Indonesia's maritime sector, particularly those aboard fishing vessels, have long been a pressing concern. These conditions encompass not only the physical safety of workers but also their emotional and psychological well-being, often compromised by the harsh working environment at sea. The data presented in table 21 highlight the various occupational hazards faced by these workers, providing a comprehensive overview of the risks that affect their safety and overall welfare.

▶ **Table 21. Fishers at risk of hazards, by vessel size**

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	95 154	100	32 746	100	34 106	100	28 302	100
Weather-related hazards (storms, large waves, lightning), setting nets in extreme weather	42 504	44.7	12 330	37.6	16 789	49.2	13 385	47.3
Lack of access to on-board safety equipment, no PPE, no safety briefing onboard, no warm clothes provided	12 342	13.0	4 234	13.2	5 025	14.7	2 992	10.6
Technical conditions on board (engine failure, ship damage), lack of stability due to overloading, vessel unfit to sail due to lack of routine checks, no safety line in toilet	10 405	10.9	4 795	14.6	3 434	10.1	2 176	7.7
Extreme tiredness/ fatigue	7 055	7.4	1 388	4.2	3 321	9.7	2 345	8.3
Getting into the water to help lift the net	4 522	4.8	978	23.0	2 134	6.3	1 410	5.0
Fighting among the crew, personal conflicts on board (co-workers, captain)	1 440	1.5	33	0.1	581	1.7	827	2.9
Animals (crocodiles, sharks, insects)	1 157	1.2	1 061	3.2	96	0.3	0	0
Too few crew members to operate the vessel safely	717	0.8	233	0.7	205	0.6	278	1.0
Conflicts with external actors (pirates, other ships, authority)	511	0.5	109	0.3	79	0.2	322	1.1
Bad conditions on board (narrow beds, people sick)	113	0.1	0	0	113	0.3	0	0

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

The findings reveal that workers encounter a range of occupational hazards, some of which are more prevalent in certain types of vessels than in others. Nearly 45 per cent of fishers reported facing hazardous conditions related to weather events, such as the necessity to set nets in extreme weather or the heightened risk from weather-induced hazards such as storms, large waves or lightning.

The second most common hazard mentioned by fishers was the issue of personal protective equipment (PPE) and safety-related risks, including the lack of access to on-board safety equipment, absence of PPE, insufficient safety briefings on board, and the failure to provide adequate warm clothing. These hazards were noted by 13 per cent of the fishers. On-board safety equipment such as life vests, first aid kits, and

fire extinguishers is essential for minimizing the impact of accidents, and their unavailability creates an unsafe work environment. PPE is critical for protecting workers from injuries, environmental hazards and long-term health issues. The absence of adequate protection puts workers at substantial risk, especially in a sector where exposure to physical dangers, such as falling nets, sharp tools, and harsh weather, are frequent. Aboard larger vessels, this issue is somewhat less prevalent (10.6 per cent), but it is much more significant on medium (14.7 per cent) and small vessels (13.6 per cent).

The technical conditions of the vessels are also among the most frequently cited safety concerns. Overall, nearly 11 per cent of workers reported safety issues related to the vessels. For instance, risks associated with the technical conditions on board, such as engine failure or ship damage, lack of stability due to the regular overloading of vessels, the fact that the vessel is unfit to sail because of a lack of routine checks, or the absence of a safety line at the toilet to prevent fishermen from falling into the sea, were often mentioned. Overloading fishing vessels can lead to a loss of balance, increasing the risk of accidents and vessel capsizing, which endangers not only the crew's safety but also the structural integrity of the vessels themselves.

The poor condition of vessels affects workers on smaller vessels more significantly (14.6 per cent) than on medium (10.1 per cent) or larger vessels (7.7 per cent). This issue highlights the importance of regular inspections and maintenance to ensure the safety and operational readiness of vessels, which are crucial for preventing accidents and extending the lifespan of fishing equipment.

The lack of safety measures for toilets on fishing vessels increases the risk of accidents, as workers can fall overboard, especially in rough seas. Many toilets offer little to no privacy, exposing crew members and compromising their dignity. Hygiene is also a major concern, with limited access to clean water forcing workers to rely on unsanitary seawater, increasing health risks. In extreme weather, these inadequate facilities become even more hazardous, making basic sanitation difficult and unsafe.

Extreme fatigue and tiredness affect 7.4 per cent of all workers: 8.3 per cent of those working on large vessels compared to 9.7 per cent of workers on medium vessels and 4.2 per cent on small vessels. Long working hours, often under physically demanding conditions, take a toll on workers' health, diminishing their ability to focus and increasing the likelihood of accidents. Fatigue can lead to impaired decision-making and slower reactions, which significantly impact the safety of both the crew and the overall operations of the vessel.

Crew morale and safety are also influenced by interpersonal conflicts among workers. Approximately 1.5 per cent of all workers reported experiencing such conflicts, with 2.9 per cent on large vessels, 1.7 per cent on medium vessels, and 0.1 per cent on small vessels, indicating that conflicts are more prevalent on larger vessels with more crew members on board for longer periods. While conflicts between crew members are not as common as other physical hazards, they can lead to distractions, poor communication and even violent altercations, all of which adversely impact the overall safety and performance of the crew.

Other less common yet still notable hazards mentioned by fishing workers include the risks associated with animals (crocodiles, sharks, insects) (1.2 per cent), insufficient crew size to operate the vessel (0.8 per cent), conflicts with external actors such as pirates, other ships, and the authorities (0.5 per cent), and poor conditions on board (narrow beds, sick crew) (0.1 per cent).

Enforcing international standards, such as those outlined in ILO Conventions Nos. 155 and 188, which mandate appropriate sanitation facilities on board, is a crucial step toward improving the quality of life for workers at sea. Such reforms would help reduce the physical and psychological burdens placed on workers, ultimately contributing to a healthier and more sustainable maritime industry.

3.8.2 Freedom of association and collective bargaining

Indonesia ratified the ILO Right to Organise and Collective Bargaining Convention, 1949 (No. 98) through Act No. 18 of 1956. More recently, Indonesia ratified the ILO Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87) through Presidential Decree No. 83 of 1998. Convention No. 87 stipulates that workers and employers have the right to form and join organizations of their own choosing to defend their interests, free from undue interference by the State. In alignment with the principles of this Convention, Indonesian labour law establishes a very low threshold for workers to form a trade union, set at 10 workers.

Convention No. 98 outlines the right of workers to organize and bargain collectively, free from interference or reprisals from employers for exercising their trade union activities. Collective bargaining is a voluntary process under which workers' organizations may negotiate with employers or employers' organizations over terms and conditions of employment and the parameters of the relationship between social partners at their chosen level, whether this is at the enterprise, sectoral level, or among multiple employers' enterprises (ILO 2015).

Workers' organizations play a central role in enhancing workers' rights, preventing violation of fundamental principles and rights at work and assisting victims.

In several countries, collective bargaining agreements (CBAs) are used to establish and regulate the terms of employment for fishers or specific groups of fishers. These agreements are formal contracts negotiated between employers, such as fishing vessel owners or operators, and fishers' representatives, often through trade unions. CBAs cover various aspects of employment, including wages, working hours, safety standards, and other conditions pertinent to the fishers' welfare. Currently, there are no CBAs that provide coverage for national workers in marine fishing.

The 2024 survey reveals a very low union membership rate among fishers, averaging 10 per cent. Fishers on medium vessels report the lowest union membership rate at 8.6 per cent, while it is slightly higher at 9.6 per cent for fishers from large vessels (table 22). Workers on medium and large vessels typically come from areas outside the port region, sometimes from entirely different districts or provinces. Consequently, they lack a natural connection to local fishers' unions. When their contracts end, these workers leave the port, limiting their time and opportunities to engage in union activities. This phenomenon is evident in Benoa Port, Cilacap, Ternate, Nizam Zachman, and other regions where many workers originate from different islands. Their primary focus is on earning a living, and once their contracts are completed, they return home.

In contrast, small vessel fishers are more inclined to participate in fisher associations, although union membership remains relatively low at just 12.6 per cent. This distinction highlights how geographical and contractual differences significantly affect workers' participation in unions or associations.

▶ **Table 22. Share of fishers who are members of a trade union, by vessel size**

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	95 154	100	32 746	100	34 106	100	28 302	100
Union coverage: share of marine fishery workers in unions	9 801	10.3	4 126	12.6	2 946	8.6	2 729	9.6
Don't know/ Refused to answer	24	0.0	0	0.0	24	0.0	0	0.0

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

The focus group discussions (FGDs) point to several factors that help explain the low unionization rate in the marine fisheries sector.

First, worker groups are often formed primarily to meet the requirements for receiving government assistance rather than to advocate for labour rights. During an FGD in Donggala, which included shipowners, port managers, and representatives from PPI Donggala, participants examined various aspects of decent work in this sector. One participant reported, "The organizations formed are only temporary, created when government assistance requires workers to be grouped together. Fishing workers only form groups at that time." When the aid or programme ends, these organizations often cease to exist due to a lack of strong bonds among members. When organizations are not founded on advocating for workers' welfare and rights, and their purpose is tied to government aid, they often become unsustainable.

Second, many fishers face significant debt owed to formal banks and private lenders, which forces them to work long hours without rest – sometimes enduring an entire week on the job. This gruelling schedule may leave them less opportunity to engage in union activities. Findings from FGDs conducted in multiple regions reveal that the widespread debt among fishers limits their ability to organize. As a result, they prioritize income generation over collective action, deepening their vulnerability to exploitative working conditions.

Third, the absence of consistent outreach and education on the role and benefits of labour unions contributes significantly to fishers' lack of interest in unionizing. Even in major ports where unions are present – such as Benoa Port – observations and in-depth interviews reveal that many workers remain unaware of the advantages of union membership. In smaller ports without union representation, this indifference is even more pronounced.

Fourth, internal conflicts within unions, including leadership disputes and competition for members, exacerbate this issue. As Triyono (2016) notes, such challenges undermine the solidarity and direction of union movements, further diminishing workers' trust and willingness to engage with unions. Moreover, a recent study (Hashiyalloh, Prabawaningtyas, and Isjchwansyah, unpublished (2024)) has highlighted the lack of clarity in dispute resolution procedures, particularly concerning authority competencies. The study stresses the need for an inter-agency approach to bridge the gaps between maritime-specific and general labour laws, ensuring effective and equitable dispute resolution and grievance mechanisms for all fishers. Recently, the ILO supported the launch of a Trade Unions' Network in the fishing sector to "foster a common voice between trade unions and reinforce bilateral and tripartite social dialogue in the fishing sector". All six national trade union confederations – KSPSI, KSPI, KSBSI, K-SARBUMUSI, KSPN and SBMI – committed to promoting decent work and eliminating forced labour and child labour in the fishing sector.

Fifth, a challenge is the limited time and minimal interaction fishers have with external networks, including online resources, which further hinder their engagement in unions. Despite the accessibility of digital platforms for organizing in the modern era (Nawawi, Triyono, and Ngadi 2023), many fishers remain disconnected, making traditional outreach and education efforts even more essential for fostering union participation.

Sixth, Indonesia's share-based payment system complicates labour relations and limits workers' ability to advocate for better conditions. This system affects the power dynamics between vessel owners and workers, making it challenging for fishers to fight for fair labour conditions. The fishing sector's business model often prioritizes cost minimization, frequently at the expense of workers' rights, severely restricting unionization opportunities (Stringer, Burmester, and Michailova 2022). As a result, fishers endure excessive hours with little time for organizing.

Lastly, the requirement to pay membership dues is a further deterrent, discouraging workers from joining unions despite the potential benefits.

3.8.3 Child labour

Child labour in marine fishing in Indonesia has various roots and causes and is characterized by high occupational risks (ILO 2004). Children are typically involved in fishing and land-based activities aligned with gender roles, particularly in the small fishing sector (Kiranantika 2018). Boys fish in coastal waters, often alongside their fathers or relatives, as part of the cultural fishing community. Girls are engaged in processing and marketing the catch and undertake domestic chores alongside adult women in the family. Girls (and women) also generally carry out shore-based harvesting activities, such as collecting seaweed or shellfish. Children participating in the marine fishing industry are exposed to various risks and hazards. They face dangers associated with being on, in, and out of the water. In-water activities include diving to disentangle nets, chasing fish into a net, or diving for shellfish. These activities carry risks of drowning, injuries from vessel engines, and other occupational accidents. Regardless of which activities children engage in, long hours at sea prevent them from attending school (ILO 2004; Kiranantika 2018; Siadari 2022)

The Minimum Age Convention, 1973 (No. 138) and the Worst Forms of Child Labour Convention, 1999 (No. 182) are the ILO Conventions that govern children's work. Children are prohibited from engaging in work that they are too young for or that may physically or psychologically harm their health or well-being. Due to the considerable risks associated with marine fishing, this industry is deemed hazardous, meaning that all children (defined as individuals under 18 years of age) employed in fishing are considered to be in hazardous work and, by extension, in child labour.

Indonesia has ratified both Convention No. 138 and Convention No. 182, establishing robust labour protections to prevent the exploitation of children and ensure safe working conditions, especially in high-risk industries such as fishing. Law No. 13 of 2003 concerning Manpower strictly prohibits employers from hiring children under the age of 18. However, Articles 68 and 69 provide a limited exception for children aged 13 to 15 years, permitting them to engage in light work that does not interfere with their physical, mental or social development. This provision aims to balance economic necessity with child welfare, ensuring that young workers are not exposed to harmful conditions.

These principles extend to the fishing industry, where labour conditions can be particularly harsh. The Regulation of the Minister of Marine Affairs and Fisheries No. 33 of 2021, Article 100 (Paragraph 1) outlines strict requirements for fishing vessel crew (ABK) to ensure their safety and competency. According to this regulation, each crew member must be at least 18 years of age and possess an identity card. They are also required to have a Fishery Sailor's Book, competency certification, and proof of physical and mental fitness. As discussed previously, to further protect workers, crew members must be registered in a social security scheme, hold a valid work agreement (PKL), and obtain the necessary safety and competency certificates before they are permitted to work on fishing vessels.

These legal measures aim to safeguard children and young workers from hazardous work environments while upholding the rights and welfare of labourers in the fishing industry.

According to the 2024 survey, in the 18 ports of interest, 0.7 per cent of interviewed fishers reported they were under the age of 18, primarily boys aged 15–17 working in small and medium-sized ports. This means that for every 1,000 fishers, approximately seven were children. This percentage corresponds to an estimation of 636 children working in marine fishing in the 18 ports covered by the survey. However, the survey is not fully equipped to capture child labour in the marine fishing industry. If children work in the sector informally, potentially only seasonally, or only helping out family members, they might not appear in the formally filed crew list and would not get sampled or chosen to be interviewed with this methodology. As employing children in fishing is not legal, employers are unlikely to report the workers on their vessel who are below 18 years old.

A different way of capturing the prevalence of child labour in the sector is an analysis of the times when interviewed workers started working in marine fishing. There is reason to believe that adult workers would report the truth about their starting time, as there are no repercussions for past employment as child workers in marine fishing.

Table 23 shows the share of workers who started working in marine fishing as children by current age group. These results reveal that almost 47 per cent of all workers started working in marine fishing when they were under 18 years old. This share is disaggregated by age group to see if there is a positive trend where young workers were less likely to start working as children than older ones. However, this positive trend is not observed, highlighting the common practice of engaging in marine fishing before turning 18, even in recent times. This result confirms that the 2024 survey probably underestimates the share of current child labourers in fishing when looking at the number of people interviewed aged below 18 years old. There is also evidence that fishers who start working early are more likely to remain vulnerable in their later employment: since they may have fewer skills they are more likely to stay in the informal economy (having no written contract or in some cases, not even a verbal agreement).[19]

These statistics highlight the alarming reality that still too many children engage in fishing, which could have long-term implications for their health, education and overall development. While children may have started working in the sector as seasonal workers or part time, the high percentage of fishers starting work at an early age raises important questions about the socio-economic factors driving child labour in this sector and the effectiveness of policies aimed at curbing it. These data provide a foundation for further investigation into the root causes of child labour in Indonesia's marine fishing sector and the need for targeted interventions to protect vulnerable children.

19 The ILO Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204) emphasizes the advantages of formalizing the sector.

▶ **Table 23. Child labour at the start of employment, by current age group**

	Worker was under 18 when starting work on a fishing vessel			
	No.	%	All workers	%
Total	43 515	46.5	93 502	100
<18	636	100.0	636	100
18-24	5 465	48.0	11 388	100
25-30	5 420	42.4	12 774	100
31-50	24 397	47.8	51 078	100
51+	7 597	43.1	17 625	100

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

3.8.4 Forced labour

According to the ILO Forced Labour Convention, 1930 (No. 29), workers are deemed to be in forced labour if they are compelled to work without their free and informed consent, meaning involuntarily, and under the threat or menace of a penalty, which constitutes coercion.

Involuntary work refers to any work that takes place without the worker's free and informed consent (ILO 2018). Circumstances that can give rise to involuntary work include situations where workers are forcefully recruited or deceived at the time of recruitment (risk of involuntary work at recruitment) or where they are required to work under conditions to which they did not give their free and informed consent (risk of involuntary work at employment).

The threat and menace of any penalty serve as coercive means used to compel a worker to perform tasks against their will. A worker may be subjected to coercion, threatened with coercion, or witness coercion inflicted upon other colleagues. "Elements of coercion may include, inter alia, threats or violence against workers or workers' families and relatives, or close associates; restrictions on workers' movement; debt bondage or manipulation of debt; withholding of wages or other promised benefits; withholding of valuable documents (such as identity documents or residence permits); and abuse of workers' vulnerability through the denial of rights or privileges, threats of dismissal or deportation" (ILO 2018).

Indonesia has made significant strides in combatting forced labour and human trafficking by ratifying key international Conventions and enacting national laws to protect vulnerable individuals. As part of its commitment to uphold human rights and labour standards, Indonesia ratified Convention No. 29 in 1950 and the Abolition of Forced Labour Convention, 1957 (No. 105) in 1999. Additionally, Indonesia ratified the United Nations Convention against Transnational Organized Crime (UNTOC) in 2009, along with its Protocol to Prevent, Suppress, and Punish Trafficking in Persons, Especially Women and Children (Palermo Protocol). These international agreements establish a framework for Indonesia to prevent trafficking, protect victims, and prosecute offenders. At the national level, Law No. 21 of 2007 on the Eradication of Human Trafficking was enacted to criminalize all forms of human trafficking, including forced labour and sexual exploitation. This law strengthens protections for women, children and migrant workers, who are often the most vulnerable to trafficking networks.

By ratifying international Conventions and strengthening domestic laws, Indonesia has shown its commitment to eliminating forced labour and human trafficking. However, ongoing efforts are necessary to ensure full enforcement, provide stronger protections for workers at risk, and hold perpetrators accountable. The 2024 survey's comprehensive analysis of workers' vulnerability to coercion and conditions leading to involuntary work in Indonesia's marine fishing sector enabled the identification

of forced labour indicators and the estimation of fishers who are possibly trapped in forced labour situations.[20]

Table 24 illustrates that 1.5 per cent of fisher employees in the 18 ports surveyed were possibly trapped in a forced labour situation at the time of the survey. This percentage is lower for small and medium vessels at 1.1 per cent, and higher for large vessels at 2.1 per cent. These figures correspond to an overall estimation of 1,050 fishers potentially in forced labour.

It is critical to acknowledge that forced labour constitutes a crime and a grave violation of human rights, no one should be subjected to forced labour—every worker deserves dignity, fair treatment, and safe working conditions. The ILO estimates that around 128,000 fishers are trapped in forced labour on fishing vessels globally. However, the global estimates of forced labour in the fishing sector are likely to be substantially underestimated due to the difficulties involved in measuring it within this industry and the nature of the global estimates, which strive to encompass the phenomenon across all sectors.

In this context, the 2024 survey presents a unique opportunity to implement tailored methods for better capturing the presence of forced labour in the sector. As the first country to undertake this comprehensive survey, Indonesia is setting a global precedent in fostering transparency and accountability in the fishing industry. This study signals Indonesia's continued commitment to eliminate forced labour and protect fishers' rights in the fishing industry.

▶ Table 24. Fishers in forced labour, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	68 375	100	8 114	100	32 407	100	27 853	100
Forced labour	1 050	1.5	91	1.1	370	1.1	589	2.1

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Fishers in forced labour are coerced into working without free and informed consent. The 2024 survey indicates that coercion can be manifested in various forms and can emerge at both the time of recruitment and during employment (see table 25).

Regarding coercion, fishing employees in forced labour most often face conditions where their identity documents (such as passports, seaman books, or similar) are withheld (34.1 per cent). Another common method of coercing workers into performing their duties without their free and informed consent is by threatening negative consequences if they voice complaints about their working conditions: 28 per cent of fishing employees reported that they could not voice complaints on their fishing vessels without risking job loss, facing deductions in their pay, being denied food, water or breaks, or encountering physical violence. Moreover, 12.1 per cent face coercion to prevent them from quitting due to a debt owed to the vessel owner, captain or agents (table 26). This includes fishers who had wages withheld, as discussed in section 3.6.3 above related to payment. These figures highlight that situations of forced labour, in which workers are subjected to manipulation or coercion at various stages of their employment cycle, continue to persist in the Indonesian fishing industry.

20 Forced labour in this study, as other decent work indicators, is identified through fishers' survey responses. This research approach relies on forced labour indicators that highlight signs or risk factors. The number of people estimated to be in forced labour through research methods does not automatically equate to legally or officially recognized cases based on established legal or regulatory criteria. Nevertheless, they offer a statistical estimate of forced labour in the sector and its key characteristics, which are crucial for informing policymakers and guiding more targeted inspections.

▶ Table 25. Detailed description of types of coercion at different stages of the employment cycle

Types of coercion	
Deceptive or forced recruitment	Fishers could not refuse the job during recruitment due to a debt owed to the employer or the threat of physical violence.
Abuse at work	Fishers face personal threats, threats to their families, physical violence, have their basic needs denied, or witness violence against co-workers at the place of employment.
Not able to complain	Fishers would lose their jobs, face partial pay, be struck, or be denied food, water or breaks if they complained about work conditions.
Identification documents withheld	The broker, recruiter, captain or vessel owner withheld the fisher's identification documents and denied them access to these documents.
Coercion to prevent quitting	The fishers cannot leave the job because they owe a debt to the vessel owner, captain or recruiter; they may be reported to the authorities; they could be victims of physical violence; they might not be paid for the work completed; they might receive a bad report on their seaman's book; or they risk losing their guarantee money

▶ Table 26. Prevalence of coercion experienced by fishers in forced labour, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
Employees in forced labour	1 050	100	91	100	370	100	589	100
Deceptive or forced recruitment	45	4.3	8	8.4	0	0	37	6.3
Abuse at work	48	4.6	0	0	48	12.9	0	0
Not able to complain	294	28.0	42	46.0	70	18.9	182	30.9
Identification documents withheld	358	34.1	0	0	167	45.1	191	32.4
Coercion to prevent quitting	127	12.1	21	23.5	43	11.5	63	10.7

Note: Workers may be subject to more than one form of coercion.

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

The survey indicates that the absence of free and informed consent can arise from several overlapping factors. As shown in table 27, most workers in forced labour have limited or no freedom to terminate their work contracts. They reported that they could not leave due to a debt, although they would have done so had they not incurred it. This finding highlights the vulnerability of many fishing workers. They have limited options to borrow the money needed to cover the cost of starting their fishing jobs and are thus often trapped in poor working conditions once they have borrowed this substantial amount from their employer. Interestingly, this finding applies to workers on both small and large vessels.

A significant proportion of workers in forced labour reported hazardous conditions that caused them to fear for their safety or health (27.6 per cent), faced demands for excessive hours of work that they had not previously agreed to (21.4 per cent), and encountered degrading conditions regarding the availability of food and water on the vessel (17.5 per cent). Some fishers experienced deceptive recruitment, where they were unaware that they would be working on a fishing vessel. They felt that brokers, recruiters or vessel owners/captains took advantage of them. This mainly occurred on large vessels, where the recruitment processes were likely to be more complex.

▶ Table 27. Conditions leading to absence of free and informed consent, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
Workers in forced labour	1 050	100	91	100	370	100	589	100
Deceptive recruitment: did not know he was to work on a fishing vessel	18	1.7	0	0	0	0	18	3.1
Requirements for excessive hours of work	225	21.4	7	8.1	131	35.5	86	14.6
Work in hazardous conditions	290	27.6	7	8.1	81	21.9	202	34.2
Work under degrading conditions (food or water)	184	17.5	42	46.0	67	18.2	75	12.8
Work with no or limited freedom to terminate work contract	407	38.8	42	45.9	91	24.5	275	46.7

Note: In "Work with no or limited freedom to terminate work contract", involuntariness and coercion were identified in one indicator. Fishing workers could have experienced more than one type of involuntariness, and shares might not add up to 100 per cent.

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

The average duration of forced labour is 17.4 months. Workers on small vessels have the highest average duration, enduring forced labour for an average of 59.7 months, compared to 18.9 months for those on medium vessels and 8.0 months for those on large vessels (table 28). These figures illustrate the differing experiences of workers depending on their employment context, with fishers engaged on small vessels potentially facing more prolonged exploitation.

The average duration of forced labour is estimated by calculating the time fishers have spent in their current jobs for fishers who experienced forced labour. This may be an overestimation of the time spent in forced labour, should the involuntary aspect or coercion at work arise later in employment and not be present from the outset.

▶ Table 28. Average duration of forced labour (months), by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	Months	No.	Months	No.	Months	No.	Months
Average duration of forced labour	1 050	17.4	82	59.7	300	18.9	415	8.0

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Many workers in forced labour are trapped in bonded labour. Bonded labour is a specific form of forced labour in which individuals are compelled to work due to debt. These debts can arise when workers or their families take out loans, pay high fees, or receive advance payments from their employer or recruiter. The terms of repayment are often unfair, unclear or illegal, allowing employers to use the debt as a means of coercion to keep the worker in forced labour until the debt is fully repaid.

Table 29 shows that 0.7 per cent of fisher employees are in bonded labour, with fishers on large vessels constituting the largest proportion (1.1 per cent). Fishers frequently find themselves unable to leave their jobs due to debts owed to their employers or recruiters. These debts can begin during the recruitment stage when fishers are compelled to pay unlawful recruitment fees and related costs. This situation puts them in a vulnerable position vis-à-vis their employers or recruiters.

▶ Table 29. Bonded labour

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	68 375	100	8 114	100	32 407	100	27 853	100
Workers in bonded labour	447	0.7	63	0.8	91	0.3	293	1.1

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

Trafficking for forced labour is defined as "the recruitment, transportation, transfer, harbouring or receipt of persons, by means of threat or use of other forms of coercion [...] for the purpose of forced labour" (Palermo Protocol, 2000). In the fishing sector in Indonesia, trafficking for forced labour is a significant concern, as shown in table 30, with 1.2 per cent of fisher employees reporting being trafficked for forced labour. Fishers who are in forced labour and live on their vessels (harbouring) constitute the largest group of those trafficked. Trafficking for forced labour is most prevalent on large vessels, where, in addition to harbouring, transportation involving fraud or deception for the purpose of forced labour is another common form of trafficking.

Collectively, these data highlight the multifaceted nature of forced labour, coercion and trafficking within Indonesia's marine fishing sector, underscoring the urgent need for robust interventions to address these pervasive issues and protect vulnerable workers.

▶ Table 30. Trafficking for forced labour, by vessel size

	All workers		Small vessels		Medium vessels		Large vessels	
	No.	%	No.	%	No.	%	No.	%
All workers	68 375	100	8 114	100	32 407	100	27 853	100
Total workers trafficked for forced labour (FL)	802	1.2	77	1.0	300	0.9	424	1.5
Harboured on the vessel with force for the purpose of FL	706	1.0	77	1.0	300	0.9	329	1.2
Recruitment with coercion for the purpose of FL	45	0.1	8	0.1	0	0	37	0.1
Transportation with fraud or deception for the purpose of FL	96	0.1	0	0	0	0	96	0.3
Forced to work on another vessel for the purpose of FL	0	0	0	0	0	0	0	0

Source: 2024 Survey on Decent Work in Marine Fishing in Indonesia.

4

Priority actions for consideration

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4. Priority actions for consideration

This report's final chapter presents ten priority actions based on insights from the Decent Work Survey and consultations with national stakeholders. These priority actions are intended to facilitate further discussions among key stakeholders while providing robust evidence on the current state of Indonesia's marine fishing sector. They also serve as a benchmark to assess progress against existing policies and those that will be implemented in the near future.

1. **The analysis of the national background and legal framework of this study highlights the need to harmonize national laws and align them with international labour standards, particularly concerning decent work in the marine fishing sector.** While aligning with international standards, attention should be given to the issue of overlapping jurisdictions among various legal frameworks and authorities. This will clarify the competencies and responsibilities of different parties, especially regarding implementation and enforcement. The ratification of Conventions Nos. 188 and 181, and the Protocol to Convention No. 29, would be important steps in promoting decent work for fishers. This would help align national laws with international labour standards and strengthen protections against violations of workers' rights, including forced labour. However, without effective enforcement, laws and regulations remain insufficient. To ensure law implementation and enforcement, Indonesia may consider prioritizing mechanisms for coordination among relevant authorities at both national and local levels, as promoted by ILO Convention No. 188. In this context, the ILO, through the Ship to Shore Rights Southeast Asia Programme[21] and the 8.7 Accelerator Lab Project,[22] has collaborated to support the Indonesian Government in strengthening cooperation between the Ministry of Manpower, the Ministry of Marine Affairs and Fisheries, and local provincial offices. This collaboration aims to establish joint inspections in the fishing sector, ensuring that regulations are effectively monitored and enforced.

2. **The survey results show significant gaps in enforcing fair recruitment standards in national laws and in alignment with international standards.** Although there are clear laws and regulations banning recruitment fees and related costs, enforcement gaps exist, leaving many fishers vulnerable to exploitation. Since direct recruitment is common in Indonesia's fishing sector, raising awareness among fishers and employers about prohibiting recruitment fees is essential, especially in a sector where hiring often occurs informally. Establishing accessible grievance mechanisms will enable fishers to report violations, while implementing remediation programmes to reimburse those who have paid illegal fees can help deter future violations. Since many fishers are directly hired by vessel owners or small operators, collaboration with civil society organizations and trade unions is crucial to promote fair recruitment practices. Furthermore, enhancing labour oversight and enforcement mechanisms will be key for ensuring compliance and accountability in this largely informal hiring landscape. The ILO's Fair Recruitment Initiative training module on labour inspections and monitoring for the fair recruitment of migrant workers (ILO, n.d.) is an important tool in this regard.

21 The ILO's Ship to Shore Rights South East Asia Programe in Indonesia.

22 The ILO's 8.7 Accelerator Lab Initiative.

3. **The survey results call for addressing the high level of informality in the fishing sector.** While all fishers are required to have a Perjanjian Kerja Laut (PKL) or Fishers' Work Agreement, most fishers work under verbal agreements, with only 10 per cent having written contracts. As per the ILO Transition from the Informal to the Formal Economy Recommendation, 2015 (No. 204), this lack of formalization increases the risk of exploitation, including unfair wages, excessive working hours, poor safety conditions, and inadequate social protection. To tackle this issue, first, the barriers to formalization and the incentives needed to promote it have to be understood. Simplifying contract templates and reducing administrative costs can make formalization more accessible, especially for small-scale fishers. Digital solutions, such as mobile-based e-contract systems, could further streamline contract management and improve government oversight. Raising awareness among both fishers and vessel owners about the benefits of formal contracts is also crucial. Stronger incentives – such as grants, tax reductions, and fuel subsidies for vessels that comply with labour laws – would encourage formal employment. Adopting collective agreements, which set legally binding employment conditions across the sector, has proven effective in other countries and could offer a structured solution for Indonesia. Grievance handling mechanisms should be developed in cooperation with social partners. In addition to formal mechanisms, accessibility may be increased with workers support centres, anonymous reporting mechanisms (such as complaint boxes at ports, a toll-free hotline, SMS/WhatsApp services), intermediation by trusted community representatives (such as religious leaders and labour unions), and written forms at common gathering places. The best approaches should be identified and designed by social partners. Enhanced labour inspections in ports and fishing communities will also be key to enforcing contractual requirements and improving working conditions.

4. **The results highlight the importance of investing in technology and skill development for workers to enhance the fishing sector and improve the welfare of workers.** Advanced technologies such as GPS navigation, weather monitoring and automated catch tracking can enhance safety and sustainability by reducing risks and improving efficiency. However, to fully realize their potential, workers must receive training to operate and maintain these tools effectively. Practical, hands-on training programmes are essential to ensure that workers can use modern technology safely and productively. Technology also plays a key role in combatting forced labour, child labour, and other violations of decent work. There is a need to establish technology standards, provide supporting infrastructure, facilitate financing for small enterprises, and offer free training for workers in the fishing sector to ensure the proper operation and maintenance of these technologies. Digital monitoring systems, such as electronic fishing logs, can track worker conditions and ensure compliance with labour laws, making identifying and addressing exploitation easier. Furthermore, satellite technology can aid in tracking illegal, unreported and unregulated (IUU) fishing, which is a significant contributor to severe violations of fishers' rights, including forced labour and trafficking for forced labour. Through investments in technology and skills development, a safer, more sustainable fishing industry can be fostered while tackling labour violations and enhancing worker welfare.

5. **It would be advisable to take proactive measures to expand social security coverage for workers in the fishing sector.** To increase participation in social security, there is a need to prioritize awareness to increase the understanding of the benefits of social security, simplify registration processes, and reduce administrative barriers, making it easier for fishers – especially those in the informal sector – to enrol. Financial incentives, such as subsidies or partial government contributions to social security premiums, can encourage more fishers and vessel owners to participate. Additionally, raising awareness through targeted outreach programmes will help fishers understand the benefits of social protection, ensuring greater compliance and long-term security for workers in the sector. BPJS should assess the PERISAI (Expansion of Participation in Social Indonesia) or other programmes to evaluate its effectiveness and identify improvements that maximize its impact and fully realize its potential.

6. **The survey results point to a need to advance occupational safety and health (OSH) on board fishing vessels.** Regulations in alignment with international standards need to be progressively implemented and enforced, considering the sector current status and potential. This includes mandating the provision of safety equipment, ensuring that vessels are designed and maintained to minimize hazards, and requiring comprehensive training for fishers on emergency procedures, safety protocols and the use of protective equipment. Additionally, regular inspections of fishing vessels should be established to ensure compliance with OSH standards. Investments in mental health support programmes and the promotion of worker welfare initiatives, such as safe private sanitation facilities and adequate rest periods, are also essential. Finally, collaboration between the Government, the employers, unions and civil society should be fostered to raise awareness about the importance of OSH and ensure that fishers are educated on their rights and available support resources.

7. **The survey results underline the importance of increased efforts to overcome structural barriers to unionization and raise workers' voices through trade unions and collective bargaining.** Trade unions should be responsive to fishers' specific needs, ensuring that their services address concerns such as fair payments, safe working conditions, social security and legal protection. Fostering collaboration with government agencies, industry stakeholders and international organizations can further enhance the impact of trade unions in improving fishers' working conditions and livelihoods. The Trade Unions' Network in the fishing sector, supported by the ILO, operates in this direction by fostering a unified voice among trade unions and reinforcing bilateral and tripartite social dialogue within the fishing sector. National trade union confederations – such as KSPSI, KSPI, KSBSI, K-SARBUMUSI, KSPN and SBMI – are committed to promoting decent work and eradicating forced labour and child labour in the fishing sector. For example, the network amplified fishers' voices across Indonesia and the Migrant Resource Centre in Pemalang and addressed grievances from over 100 migrant fishers since its launch in 2024. However, current dispute-resolution policies in the fishing sector lack clarity regarding the procedures and the responsible ministries or agencies. To address this, stronger inter-agency collaboration is needed to bridge the gaps between maritime-specific and general labour laws, ensuring effective, equitable dispute resolution and grievance mechanisms for all fishers. Additional actions include raising awareness about the benefits of union membership, strengthening worker support in negotiating working conditions that offer them some protection against the risk of unstable earnings, and reducing financial barriers to membership – such as subsidized fees or incentive programmes for unionized workers – to encourage greater participation.

8. **Based on the survey results, there is a need for urgent measures to tackle fundamental principles and right at work, including child labour, forced labour and trafficking for forced labour in the fishing sector.** The survey revealed that instances of child labour, forced labour, and human trafficking continue to exist in Indonesia's fishing industry, highlighting the urgent need for increased efforts to eradicate these serious violations of workers' rights once and for all. The result of this survey provides a foundation for further investigation into the root causes of child labour and the need for targeted interventions to protect vulnerable children in Indonesia's marine fishing sector. Decisive steps should be taken to eliminate forced labour in the fishing sector by aligning national policies with ILO Convention No. 29 and its Protocol of 2014 (PO29), and Recommendation No. 203. These instruments call for stronger prevention, protection and remediation measures, including enhanced labour inspections, victim identification mechanisms, and access to justice and compensation for affected workers. Protocol PO29 should be ratified to reinforce the commitment to eradicating forced labour and ensure that existing laws are effectively enforced. Additionally, strengthening social dialogue, expanding access to social protection, and improving recruitment practices will help prevent exploitation and create a more ethical and sustainable fishing industry.

9. **It would be recommended to promote and engage in studies that adopt a fisheries supply chain approach to understand the sector's broader structural challenges and opportunities, as well as the crucial role of the sector's stakeholders.** A strategic supply chain approach can serve as a key driver of decent work and inclusive economic growth by revealing supply chain incentives that promote fair labour practices and better working conditions. For example, gender roles influence labour dynamics across the supply chain, as women are often concentrated in undervalued and informal processing jobs, highlighting the need for fair labour policies beyond fishing vessels. Moreover, trade agreements can create opportunities for the fishing industry to access export markets, enabling businesses to offer more stable employment while adhering to decent work standards. Simultaneously, strengthening compliance with labour standards will enhance the industry's reputation as ethical and sustainable – an increasingly vital consideration for global customers and trade partners. In recent years, the industry sector has made significant progress in this regard. The Indonesian Employers Association (APINDO), the Indonesian Pole & Line and Handline Fisheries Association (AP2HI), and the Indonesian Longline Tuna Association (ATLI) established a private-sector working group to promote decent work and sustainable growth within Indonesia's fishing industry. AP2HI also implemented a Code of Conduct (CoC) that mandates adherence to national labour laws and regulations, including adopting policies against forced and child labour. Effort was also made on financial education and training for fishers and their families. However, employers and employer organizations need guidance and support in meeting international standards and due diligence requirements, which are becoming increasingly demanding. Additionally, environmental sustainability and global market demands are deeply interconnected with labour rights, as overfishing, climate change and supply chain pressures can drive exploitative practices, making a comprehensive approach critical for sustainable and ethical fisheries management.

10. **The survey results highlight the importance of enhancing data collection and utilization to inform policy decisions in the fishing sector by leveraging administrative records from relevant authorities.** Strengthening data coordination across agencies will improve oversight, support evidence-based policymaking, and bolster protections for fishers. A centralized and accessible database, including data from vessel registrations, employment and social security records, port authorities, and enforcement and monitoring systems, would facilitate better monitoring of labour conditions, compliance with regulations, and the implementation of social security programmes, ultimately promoting a more transparent, sustainable and accountable fishing industry.

Governments, employers' organizations and workers' organizations all have important roles to play in addressing these priorities through tripartite consultation and social dialogue. This report aims to serve as a valuable tool for facilitating policy dialogue and translating priorities into concrete actions that will help make the fishing sector more prosperous while ensuring decent working conditions for all workers employed in the sector.

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Annexes

Annexes

Annex 1: Sampling design: Required sample size and sampling weights

1. Sample size requirement

Measuring forced labour and trafficking for forced labour is particularly challenging because they are extremely rare phenomena, including within the target population of fishing workers.

Thus, the sample size requirement was determined with reference to the prevalence of forced labour, since if forced labour can be identified, then that provides sufficient conditions to measure all the other decent work indicators.

The ILO global estimate of forced labour estimates about 128,000 fishers trapped in forced labour on board fishing vessels (ILO, Walk Free Foundation, and IOM 2022, 33). This figure is considered to significantly understate the extent of the problem given the unique challenges posed by measuring forced labour on board fishing vessels. Yet, it is currently the only global estimate of forced labour in marine fishing available. Comparing it with the 2020 FAO global estimate of employment in fisheries, equal to 37,882,000 gives a global estimate of the prevalence rate of forced labour in fishing of 0.3 per cent (obtained as 128,000/37,882,000). This means that about 3 out of 1,000 persons engaged in fisheries have experienced forced labour during the past five years, a small yet significant figure.[23]

The minimum number of sample workers required to achieve a specific precision of the estimate of prevalence of forced labour among workers in marine fishing may be calculated as follows:

$$n = \frac{z^2_{1\text{-}\alpha/2} \times p(1-p) \times deff}{ME^2 \times RR}$$

Where:

- p is the prescribed value of the prevalence of forced labour in marine fishing in Indonesia, set here at p=0.003, the global value calculated based on the estimates of fishing workers in forced labour in the last Global Estimates of Forced Labour;
- *deff* is the design effect and measures the extent to which the expected sampling error in the estimate departs from the sampling error that can be expected under simple random sampling. The design effect is typically set at *deff*=2 in conventional labour force surveys. In the context of Indonesia, which has a very large coastline and wide diversity of fishing ports, the design effect can be set at a higher level, 2.5;
- *ME* is the specified margin of error of the estimate, set at *ME*=0.003, so that the confidence interval of the estimate of the prevalence of forced labour has a length that is about equal to the prescribed estimate;

23 This is an approximate estimation based on the limited data currently available and is used to determine the sample size needed for the 2024 survey. Future iterations of the Decent Work Survey in Marine Fishing, along with other surveys that measure forced labour in the fishing sector, will enable more accurate estimates of the phenomenon at both national and global levels.

- *RR* is the response rate, set at *RR*=0.90, corresponding to a non-response rate of about 10 per cent, assuming that about 10 per cent of the eligible sample workers would not participate in the survey; and
- $z_{1-\alpha/2}$ is the value of the tail of the standard normal distribution, set at $z_{1-\alpha/2}$=1.96, corresponding to a significance level of α=5 per cent.

The calculation gives the minimum sample size requirement of the survey in terms of number of workers,

$$n = \frac{1.96^2 \times 0.003 \times (1 - 0.003) \times 2.5}{0.003^2 \times 0.90} = 3{,}546 \; workers$$

The sample size requirement in terms of number of workers was tested in terms of the effective sample units, that is the sample size requirement in terms of number of vessels and the sample size requirement in terms of the number of PSUs (primary sampling units). Let w_1 be the number of sample workers to be selected per sample vessel, and w_2 the number of sample households with marine fishing workers to be selected per sample PSU, we may then express the sample size requirement in terms of number of vessels, n_1, as

$$n_1 \times w_1 = \lambda n$$

and the sample size requirement in terms of number of PSUs, n_2, as

$$n_2 \times w_2 = (1 - \lambda) n$$

where λ is the fraction of the total sample size allocated to the sampling of vessels and (1- λ) the fraction allocated to the sample of PSUs. In the above expressions, it is assumed that a sample household has only one worker in marine fishing, or if there are more than one, only one is selected in the sample. The expressions also assume that there are no overlaps between the sample of workers obtained from the sample of vessels and those obtained from the sample PSUs.[24]

To fix ideas, suppose that the total sample size requirement in terms of a number of workers is 3,546 and set at 1=0.5, that is it is decided to draw half of the sample of workers from their place of work (vessel) and the other half from their living quarter (PSUs). Suppose, further, that it is decided to draw five sample workers per sample vessel (w1=5), and five sample workers per sample PSU (w2=5), then the sample size requirement in terms of number of vessels is about n1 = 345 vessels and the sample size requirement in terms of number of PSUs is about n2 = 345 PSUs.

During the data analysis sampling weights were used to extrapolate the sample results to the corresponding fishing population in the 18 ports covered by the survey.

24 The assumption of no sample overlap does not necessarily mean no frame overlap.

2. Calculation of survey weights

The purpose of sampling weights is to extrapolate the sample results to the corresponding population aggregates. The calculation of the samplings generally involves three steps: (1) design weights; (2) adjustment for non-response; and (3) calibration to ensure consistency with known totals. The calculation was carried out separately for workers selected from vessels and for workers selected from living quarters.

Workers selected from vessels

The design weight of a sample worker selected from vessels is the inverse of the probability of selection of the worker under the sampling design of the survey. As the sample selection involved two stages: sample selection of the vessel (*v*) and sample selection of the worker (*w*) in the sample vessel, the probability of selection of a worker from vessels was calculated as the product of the selection probability at the first stage of sampling and the selection probability at the second stage of sampling,

$$Prob\ (w \in s) = \epsilon \times Prob\ (w \in s | v \in sample)$$

where is the sample of workers, *n* is the total number of vessels listed in the port and *m* is the number of vessels in the sample. As the sample selection of workers within vessels was stratified by type of workers: (a) non-sailor crew; and (b) sailor crew, the conditional probability of selection of a given non-sailor crew, w_A, in a sample vessel, *v*, is obtained by

$$Prob\ (w_A \in s | v \in sample) = \frac{1}{k_A}$$

where k_A is the number of non-sailor crew in the vessel. If the sample vessel did not have any non-sailor crew $k_A = 0$, the probability of selection was set to zero. In the case of sailor crew, sample selection depended on the total number of workers in the vessel. Thus, if the total number of workers in the vessel is *k*, the conditional probability of selection of a given sailor crew, w_B, in a sample vessel, *v*, was calculated as:

$$Prob\ (w_B \in s | v \in sample) = \begin{cases} 1\ if\ 1 \leq k \leq 4 \\ 1/(5-1)\ if\ 5 \leq k \leq 19 \\ 1/(10-1)\ if\ 20 \leq k \leq 99 \\ 1/(10-1)\ if\ k \geq 100 \end{cases}$$

where *k* is the total number of workers of the vessel. If the sample vessel did not any non-sailor crew, $k_A = 0$, the values in the denominator of the probability calculation were modified to 1/5, 1/10, and 1/10, respectively.

The next step in the calculation of the sampling weights was to adjust the design weights for possible non-response of sample units due to refusal, sickness, non-availability or other reasons. This was carried out by inflating the design weight for the non-response of eligible sample units, that is, dividing the design weight by the response rate of eligible units. A distinction was drawn between non-response of sailors and non-response of non-sailor crew, and the adjustment was made separately for each group: RR_A, the response rate of the sample of non-sailors in all sample vessels; and RR_B the response rate of the sample of sailors in all sample vessels.

The resulting weights were then calibrated to ensure that the final sampling weights were consistent with the total number of vessels landing or sailing from the port or the total number of workers in vessels landing or sailing from the port. Here a simple method, ratio estimation, was used to calibrate the sampling weights to the total number of workers in the listed vessels of the sample port.

A further weight adjustment was made to account for the time element of the survey. The vessels listed in a port at a given time represent other vessels not docked at the port at the time. They may be out at sea, or in repair, or simply idle. To account for the time element, the sampling weights were multiplied by the factor,

$$\frac{365}{u \times t}$$

where u denotes the average number of days a vessel docks at the port before leaving, and t denotes the average turnover rate of the vessels, that is, the average number of times they return to the port during a year. Values of u and t were determined by port and the resulting sampling weights were considered as final weights.

Workers selected from living areas

As in the case of workers selected from vessels, the sampling weights of workers selected from living areas was calculated using three steps: (1) calculation of design weights; (2) adjustment for non-response using response homogeneity groups; and (3) calibration to known aggregates deemed more accurate than the corresponding survey estimates.

The design weight of a sample worker k in household j residing in living area or more precisely RT i was calculated as the inverse of the probability of selection of the worker under the sampling design of the survey. In line with three-stage sampling design of the survey, the probability of selection of the worker is the product of three probabilities,

$$\pi_{ijk} = \pi_i \times \pi_{j|i} \times \pi_{k|ij}$$

where π_i is the probability of selection of the living area or *RT i*; $\pi_{j|i}$ is the conditional probability of selection of household *j* in the sample living area *i*; and $\pi_{k|ij}$ is the conditional probability of selection of worker *k* in the sample household *j* in sampling living area *i*.

The three probabilities were calculated as follows:

$$\pi_i = \frac{\min(10, RTs_i)}{RTs_i}$$

where RTs_i is the number of *RTs* in living area *i*. Thus, if the number of *RTs* in living area *i* is less or equal to than 10, π_i, and all *RTs* are included in the sample. Otherwise, if the number of *RTs* is more than 10, the probability of selection of the living quarter *i* is less than 1, $\pi_i = \frac{10}{RTs_i} < 1$;

$$\pi_{j|i} = \frac{Y}{X_{RTi}}$$

where Y is the number of sample households selected from sample RTi, and X_{RTi} is the total number of households living in $RT\ i$; and

$$\pi_{k|ij} = \frac{1}{n_{HHij}}$$

where n_{HHij} is the number of workers engaged in marine fishing in sample household j living in sample $RT\ i$. The overall probability of selection of the worker k in household j living in $RT\ i$ is obtained by the product of these three probabilities, $\pi_{ijk} = \pi_i \times \pi_{j|i} \times \pi_{k|ij}$. The design weight is then obtained by the inverse of the selection probability.

The next step in the calculation of the sampling weights was to adjust the design weights for possible non-response of sample workers due to refusal, sickness, non-availability or other reasons. The adjustment of weights for non-response was made by dividing the design weight with the response rate of responding households, grouped into homogenous groups. In the present context, the response homogeneity groups were formed in terms of workers living in households around the same port. Thus, it was assumed that all workers living in areas around the same port have the same propensity to participate in the survey. The response rate of workers in each response homogeneity group, that is, in each survey port, was calculated by simply counting the number of responses as a ratio of total number of sample workers. The response rate of workers living in RTs around survey port A is then,

$$RR_A = \frac{\#\ responding\ workers\ in\ port\ A}{\#\ sample\ workers\ in\ port\ A}$$

The final step of weight calculation is generally calibration. The purpose of calibration is to ensure that the final sampling weights are consistent with some known aggregates such as the total number of workers in marine fishing living around the survey port obtained from official statistics. As such statistics could not be readily obtained, calibration was not performed in the calculation of sampling weights of workers selected from living areas.

The calculation of the sampling weights of workers selected from vessels or from living areas and households was implemented in a special template in Excel.

Annex 2: Premiums and benefits of BPJS Health and Employment Insurances

BPJS scheme	Premium contribution rate (per month)	Benefits
BPJS Health (BPJS Kesehatan)	5%*wages (4% employer, 1% employee)	Health protection. Services from first level, outpatient to inpatient
Work Accident Insurance (JKK)	For workers who receive fixed wages, JKK premium contributions are paid by the employer Very low-risk level: 0.24% of monthly wages Low-risk level: 0.54% of monthly wages Medium risk level: 0.89% of monthly wages High-risk level: 1.27% of monthly wages Very high-risk level: 1.74% of monthly wages 1%*income No-Wage recipients (BPU)	Healthcare services include basic and advanced examinations, primary and specialized care, and inpatient treatment. Home care is provided for those unable to visit hospitals, with a one-year limit and a cost cap of IDR 20,000,000. Transportation reimbursement Temporary disability benefits cover 100% of salary for the first 12 months and 50% thereafter. Disability compensation is based on the severity, with total permanent disability valued at 70% × 80 × monthly salary. Death benefits include a lump sum of 60% × 80 × salary (minimum JKM benefits) and a funeral allowance of IDR 10,000,000. Rehabilitation support comprises prosthetics and orthotics at government hospital prices, plus a 40% markup, medical rehabilitation, and allowances for dental prosthetics (IDR 5,000,000), hearing aids (IDR 2,500,000), and eyeglasses (IDR 1,000,000). Scholarships for up to two children of disabled or deceased participants range from IDR 1,500,000 per annum (Kindergarten/Elementary) to IDR 12,000,000 per annum (University/Training) for a maximum duration of five years. Claims are submitted annually and cease when the child turns 23, gets married, or begins working. The Return to Work (RTW) programme supports injured workers in resuming employment through healthcare, rehabilitation, and job training. It requires employer compliance with contributions, medical recommendation, and agreement from both the employer and the employee.
Old-age insurance (JHT)	5.7%*wages (3.7% employers, 2% employee) 2%*income (BPU)	Participants are eligible for a lump-sum payment upon reaching the age of 56, voluntary resignation, employment termination (both with no active employment), permanent departure from Indonesia, total permanent disability, or death. Participants with at least 10 years of membership may withdraw up to 10% of their funds for retirement preparation or 30% for home ownership, with a one-time withdrawal limit.
Pension Insurance (JP)	3%*wages (2% employer, 1% employee)	Participants receive monthly pension benefits based on a predetermined formula. The old-age pension is provided from retirement until the participant's death. The disability pension is granted to those with total permanent disability due to accidents or illness, also until death. The survivor's pension is paid to the participant's surviving spouse until they remarry or pass away. Additionally, the child pension is given to up to two registered children until they turn 23, gain employment, or marry. If the participant has no spouse or children, a parent pension is provided to one surviving parent until their death. Alternatively, participants may receive a lump-sum payment, which consists of the total accumulated contributions along with investment returns. For 2024, the minimum monthly pension benefit is set at IDR 393,500.00, while the maximum benefit is IDR 4,718,200.00.

BPJS scheme	Premium contribution rate (per month)	Benefits
Death insurance (JKM)	0.3%*wages (employers) 6,800 IDR (BPU)	The Death Benefit (JKM) is provided to participants who pass away while actively enrolled in the programme. It includes several components, ensuring financial support for the participant's beneficiaries. First, the programme provides a death compensation of IDR 20,000,000 as a lump-sum payment. Additionally, a lump-sum periodic compensation of IDR 12,000,000 is granted. To cover funeral expenses, the program also provides an amount of IDR 10,000,000. Furthermore, scholarship assistance is available for up to two children of the deceased participant, provided the participant had contributed for at least three years and did not pass away due to a work-related accident or occupational illness. The scholarship is awarded annually based on the child's education level. For early education, kindergarten students receive IDR 1,500,000 per year for up to two years. Elementary school students receive IDR 1,500,000 per year for a maximum of six years, while junior high school students receive IDR 2,000,000 per year for up to three years. Senior high school students are granted IDR 3,000,000 per year for a maximum of three years. For higher education, the scholarship covers undergraduate studies (Bachelor's degree) or vocational training, providing IDR 12,000,000 per year for a maximum of five years. The scholarship is claimed annually, and if the participant's child is not yet of school age or is in elementary school at the time of the participant's death or total permanent disability, the funds will be disbursed once the child reaches school age. The scholarship support ends when the child reaches 23 years of age, gets married, or begins employment.

Source: BPJS 2025.

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