

RESEARCH ON INDICATORS OF FORCED LABOR

in the Supply Chain of Fish
in Indonesia:
Platform (*Jermal*) Fishing,
Small-Boat Anchovy
Fishing, and Blast Fishing



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Executive Summary

Verité carried out research on the presence of indicators of forced labor in the production of ten goods in seven countries from 2008 through 2011. Research was carried out on the production of shrimp in Bangladesh; Brazil-nuts, cattle, corn, and peanuts in Bolivia; sugar in the Dominican Republic; coffee in Guatemala; fish in Indonesia; rubber in Liberia; and tuna in the Philippines. The following report is based on research on the presence of indicators of forced labor in certain types of fishing in Indonesia. This research was not intended to determine the existence or scale of forced labor in the countries and sectors under study, but rather to identify the presence of indicators of forced labor and factors that increased workers' vulnerability to labor exploitation.

Objectives

The primary objectives of the project were to:

- obtain background information on certain areas of the fishing sector in Indonesia;
- create a methodology to study the presence of indicators of forced labor in some areas of the Indonesian fishing sector;
- identify and document indicators of forced labor among workers in the Indonesian fishing sector;
- document the broader working conditions that workers in the fishing sector experience; and
- determine the risk factors for vulnerability to forced labor and other forms of exploitation in the particular areas of the Indonesian fishing sector.

Context

In order to gain an understanding of the social, economic, labor market, and cultural context of the fishing sector in Indonesia, background research was carried out through a comprehensive literature and legal review and expert consultations.

Fishing plays a large role in the Indonesian economy; over 6.2 million people are involved in fishing activities in Indonesia and fishing exports earned the country over USD 2.66 billion in 2010.¹ Several aspects of Indonesian fishing activity have earned significant international attention, including *jermal* (platform) fishing, as well as illegal fishing. With the exception of international attention paid to forced child labor on *jermals*, little previous research had been conducted specifically on the indicators of forced labor in these sectors.

Indonesia Snapshot

Population: 248,216,193 - July 2012 estimated. (CIA Factbook)

Labor force: 117 million (CIA Factbook)

Labor composition: agriculture (38.3 percent); industry (46 percent); services (39.1 percent) (CIA Factbook)

GDP: \$834.3 billion (CIA Factbook)

Top exports: oil and gas, electrical appliances, plywood, textiles, rubber

United Nations Human Development Index: Rank of 124 out of 179 (United Nations Human Development Index. 2011.)

Transparency International Corruption Perceptions Index: Score of 2.8, rank of 110, comparable with Kosovo, Benin, Bolivia and Gabon. (Transparency International, Corruption Perceptions Index 2011.)

Research Methodology and Limitations

Verité's research in Indonesia initially aimed to assess the circumstances surrounding forced labor on fishing platforms (*jermals*) in North Sumatra province. This research was subsequently expanded to examine small-boat anchovy fishing in North Sumatra, and blast fishing in South Sulawesi province

Researchers did not presuppose forced labor, but instead designed surveys to probe for the existence of indicators of forced labor as well as other exploitative conditions. The research design used a combination of qualitative and quantitative methods (non-probability sampling). Quantitative data was gathered via surveys using both convenience and snowball sampling to select respondents. Therefore, the quantitative findings from this study are biased by the use of nonprobability sampling. The quantitative portion of the research was not meant to be statistically representative at the national or sectoral level, but to offer trends, analysis, and insight into conditions facing workers in the sectors studied.

Qualitative data was gathered through including more informal semi-structured interviews with workers and stakeholders, worksite observation, focus groups and case studies. The qualitative findings were used to add greater detail to the quantitative findings, and to triangulate quantitative findings.

The research was timed to coincide with peak, middle, and low seasons of fishing activity.

Initial research included a review of previous research, laws and policies; and identification of, and contact with, stakeholders and key informants to clarify methodology.

The first round of field research took place from September 2010 to January 2011. During this round, researchers observed and interviewed *jermal* workers, blast fishers,

and small-boat fishers. Community members and other local stakeholders were also interviewed. A second round of field research was conducted from April through August of 2011. During this second round, more targeted research was performed, to follow up on trends and questions elicited from the first round of research. Case studies and focus group discussions were held at this time. A final round of expert consultations was held in early 2012 to validate research findings.

Findings Summary

Verité investigated the presence of indicators of forced labor among workers engaged in *jermals*, blast fishing, and small-boat fishing using International Labor Organization (ILO) guidance titled, “Identifying Forced Labor in Practice”, which was published by the Special Action Program on Forced Labor in a 2005 report, *A Global Alliance Against Forced Labour: Global Report under the Follow-Up to the ILO Declaration on Fundamental Principles and Rights at Work*.

The research also sought to clarify the presence of exploitative practices that, while not rising to the technical level of forced labor, nonetheless denote labor rights violations. Verité sought additionally to shed light on the demographics of workers involved in these sectors.

Jermals

Although the number of *jermals* has declined dramatically over the past decade, there are still workers who face indicators of forced labor on *jermals*. While on the *jermal*, with little possibility of escape, workers are subject to harsh conditions and physical and verbal abuse from supervisors, which is used to force workers to work harder and longer hours. Hours are excessively long and workers are engaged day and night. Workers are dependent on the *jermal* supervisor for their bleak housing on the platform itself and meager food rations. These conditions strongly indicate work and life under duress. Specifically, among current workers, Verité research found indicators of:

- Forced and Excessive Overtime, Forced to Work On Call. The work on *jermals* is labor intensive, and during tidal periods, workers may be required to work up to 20 hours per day, with only short breaks to rest. Workers are required to work seven days per week for the three month periods when workers are on *jermals*, with no rest days.
- Limited Freedom of Movement and Communication, Constant Supervision, Isolation. Once workers are physically on a *jermal*, they have little opportunity to terminate employment within the first three months. The geographically isolated nature of *jermals* is a key factor in *jermal* workers’ vulnerability to forced labor, and workers are cut off from virtually all communication with the outside world. This isolation, compounded by constant scrutiny from supervisors, constitutes strong indicators of impossibility of leaving the employer.

- Degrading Living Conditions. Workers live and work on *jermals*. The space is cramped, with no privacy or comfort. Food and fresh water are scarce. Sleeping quarters are primitive and partially exposed to the elements. There are no separate sleeping quarters, workers sleep on thin mats wherever they can find space.
- Hazardous Work. The physical structure of *jermals* presents numerous health and safety dangers. First, the structures are at the mercy of sea conditions, including waves and storms. Sharks are common in the waters around *jermals* and may present a hazard to workers who fall in. The intensive nature of the work presents the possibility for repetitive stress injuries. Workers have limited access to food, fresh water, or medical attention.
- Physical and Verbal Abuse and Harassment. Workers are isolated and live with the *jermal* boss and have no access to grievance mechanisms. Interviews with former workers detailed extensive verbal and physical abuse, and due to the isolation and constant scrutiny that workers continue to endure, it is reasonable to believe that they face the same conditions.
- Withholding of Wages; Coercive Pay Structure. Pay is not received until the end of a three month term. On top of the physical isolation, this means that even if workers were to find a way to escape, they would not be paid unless the entire three month term is completed. Although this system was primarily described by former *jermal* workers, it is reasonable to believe that this system is ongoing.
- Exploitation of Workers with Mental Disabilities. During interviews with families of workers, researchers determined that there is some incidence (although it may be isolated) of adults with mental disabilities being trafficked to *jermals*.

Small-Boat Anchovy Fishing

Anchovy boat fishers in North Sumatra are involved in a traditional fishing system in which power is concentrated with boat owners and their admirals. Fishers must maintain good relationships with these powerful individuals to maintain the right to continue fishing with them. To some degree, workers are mobile and have the ability to leave a “bad” admiral or boat owner. However, the overarching concern is the ability to maintain a viable livelihood, and that may mean accepting less than ideal working conditions.

Poor working conditions, including long hours for low pay, are somewhat standard in the fishing sector in Indonesia; and the terms of employment are generally well-understood. Areas of particular concern include the presence of hazardous child labor, hazardous adult labor, opaque lending practices between boat admirals and their workers, and excessive hours of work.

- Debt: Most adult workers and some child workers interviewed reported taking loans from their boat admiral in order to cover income gaps. While fishers often have alternate sources for loans, taking loans from the admiral is considered preferable as these loans are seen as “advances on payment” and interest is not charged. These loans are generally for a relatively small amount and do not effectively bind the workers to the admiral, although they do reinforce dependency on the admiral and a hierarchical, patronage-like relationship.
- Excessive Hours: Workers on both long and short trip boats reported that working hours during trips were approximately 12 to 15 hours per day.
- Hazardous Child Labor: Children were identified working on boats and in related sectors such as anchovy workshops. One hundred and twelve child workers ranging from ages nine to 17 were identified working in the anchovy sector, approximately seven of whom worked directly on boats. Due to the long hours and hazardous nature of fishing – which, without question, stand to harm the health and safety of the children concerned – this work can be considered a worst form of child labor for workers under the age of 18.²
- Hazardous Work: All workers, including children and adults, reported severe health and safety concerns including live threatening waves and storms, and serious injury from machinery on the boats.
- Low Wages and Exploitive Pay Structures: Workers reported earning an average of approximately 30,000 – 35,000 IDR (3.34 – 3.89 USD) per day of fishing. While regular fishers are paid by the day, higher status workers such as admirals are paid on a bonus system, depending on the volume of the catch. This means that the admirals are incentivized to induce the fishers to work harder and longer, but the fishers themselves will not share in the reward of a higher volume catch. On the other hand, if a trip is unsuccessful and no fish (or a low volume of fish) are caught, the workers may not receive their daily payment, meaning that they have a higher burden of risk without the possibility of higher reward.
- Lack of Contracts or Benefits: Employment is informal. Workers lack contracts and any benefits (such as money to cover medical bills from injuries sustained while fishing) are given at the discretion of the admiral or boat owner.
- Limited Freedom of Movement and Communication: Limited freedom of movement and communication are inherent to boat fishing, but nonetheless, and even when consented to by the worker, create a vulnerability to severe and unanticipated forms of exploitation.

Blast Fishing

Fishers involved in blast fishing (or *sawi*) participate in a system that resembles a traditional patronage relationship, in which a powerful individual (in this case known as a *juragang*) provides access to capital and livelihoods. Blast fishing is illegal, which means that blast fishers are *de facto* participating in an illicit activity and therefore may be vulnerable to arrest or extortion. Blast fishing is also dangerous, as explosives are used to capture fish. Child labor appears to be common, with children undertaking some of the most dangerous jobs such as diving for fish.

- Induced indebtedness: Eighty-five percent of *sawi* reported that they were indebted to their *juragang*. Culturally, loans are seen as advance payment rather than debt, and no formal record of the debt is kept.
- Pre-existence of dependency relationship with employer: *Sawi* dependence on their *juragang* goes beyond debt – *juragang* are the center of the island communities, and much of a *sawi*'s identity within the community is tied to the *juragang* for whom he works. Most *sawi* do not have direct access to materials for blast fishing, and instead rely on the *juragang*'s networks to procure these contraband materials.
- Child Labor: Twenty-six children participating in blast fishing were identified and interviewed. These children reported using explosives, performing free dives and dives with air compressors, and generalized exposure to the ocean and ocean creatures. These factors make blast fishing a hazardous activity, and therefore a worst form of child labor.
- Hazardous Activity: Due to the use of explosives as well as the practice of diving without proper safety equipment, fishers engaged in blast fishing are at risk for a number of injuries. Children are particularly at risk.
- Physical Violence, Verbal Abuse: Nineteen percent of children interviewed reported being physically assaulted by their *juragang* as a punishment for making mistakes. Nearly all child workers interviewed reported verbal abuse (yelling).

Background & Setting

This section provides an overview of three segments of the Indonesian fishing sector: platform (*jerma*) fishing, blast fishing, and small-boat fishing. Analysis is broken down into five key areas of inquiry: the place, product, people, policies, and programs (the five Ps); and then provides a history of working conditions – with a particular focus on forced labor – in the industry, and a look at how the 5Ps variables have interacted to either contribute to or ameliorate vulnerabilities to labor violations.

The Five Ps of Platform-, Blast-, and Small-Boat Fishing in Indonesia: Place, Product, People, Policies and Programs

With over 17,000 islands, Indonesia is the largest archipelago in the world. Around 70 percent of Indonesia's territory consists of water,⁶ and the country is home to

Fishing Sector in Indonesia, 2008	
Production (000 Ton)(2008) ³	9,051.5
Fishing Boats (000 Ton)(2008) ⁴	5,196.3
Fish Culture (000 Ton)(2008) ⁵	3,855.2
Major Export Markets	China, Thailand, Japan, US, Singapore, Korea

approximately 18 percent of the world's coral reefs.⁷ Fishing is one of the country's major exports, earning USD 2.66 billion in 2010.⁸ Major export markets are China, Thailand, Japan, US, Singapore, and Korea. In 2010, Indonesia was ranked 11th on the list of the world's

fishery exporter countries. Over 60 percent of fish produced in Indonesia is caught on fishing boats, while the rest is produced through fish culture. Major fish species include mackerel, perch, mako, halibut, sole, stingray, grouper, lobster, and shrimp.⁹



Figure 1 - Map of Indonesia¹⁰

The shallow waters around western Indonesia produce about two-thirds of the total fish catch for the country. Small-scale fishers are confined to fishing the coral reefs using lines, traps, beach seine or lift nets. Small scale operations produce over 90 percent of total marine-fishery production. Industrial fisheries contribute considerably more in value terms, since they are focused on high-value shrimp and tuna stocks.¹¹

An FAO study revealed that Indonesia has an enormous amount of unreported catch (over 1.5 million tons annually), much of it illegal.^{12 13} There are several types of illegal fishing in Indonesia, including blast fishing, trawl-net fishing,¹⁴ and cyanide (or poison fishing).¹⁵ Verité's study focuses on blast fishing, *jermal* fishing, and small-boat anchovy fishing.¹⁶

Due to Indonesia's location between the Indian and Pacific Oceans, the country has two primary seasons: "East Season" between April and October; and "West Season" from November - March. While fishing is conducted during both seasons, the East season is known to have calmer, better conditions for fishing, so the sector is generally more active during that time. The summer or "West Season" is also known as "famine" season, and is marked by high tide, heavy rain, and winds from the west. However, fishing expeditions do go out when the weather is sufficiently calm. Workers in the fish industry may go through periods of heavy work in the East Season, only to have periods of little to no work in the West Season. The weather was particularly stormy during the 2011 West Season, causing fish prices to increase by 50 percent in January 2012 due to lack of supply.¹⁷ (See a more nuanced discussion of East and West season in Methodology.)

Product



Figure 2 - Example of Jermal – Verité Photo

Platform (Jermal) Fishing

Jermals are large wooden fishing platforms. *Jermals* are on average 20 by 40 meters in area, but can measure up to 50 meters by 70 meters.¹⁸ They are located anywhere from five to 18 miles from shore, in the open ocean.

Jermals rose to prominence as a means of anchovy fishing in the 1970s and remained popular through the early 2000s. During the height of their prominence in the 1990s, research placed the number of active *jermals* between 395 and 800 with an estimated 8,000 workers, approximately 75 percent of whom were children.¹⁹ The industry is now on a steep decline due to a combination of

factors including the launch of the National Action Plan against Child Labor and the 2004 tsunami. In 2004, the ILO estimated that there were 120 operational *jermals*.²⁰ Verité field research found that there were 12 remaining *jermals* in 2010.

The harvest season on the *jermal* is based on the monthly lunar cycle, with two harvest seasons per lunar cycle (approximately two per month). During this time hours are longer, as anchovies must be processed (boiled and dried) shortly after they are collected.

Jermal workers catch, process and prepare fish for shipment. The fish, mainly anchovies, are taken by the *jermal* owner to processors and traders at coastal locations. Traders usually process, dry and package the fish, and the product is sold primarily for domestic consumption, but also for regional export.

Small-Boat Anchovy Fishing

The fishing sector in Indonesia is comprised of artisanal and commercial fishing. Artisanal fishing is mainly conducted for subsistence by fishers and their families in smaller vessels (typically less than ten gross tons). These boats conduct fishing trips of one to two days and operate near port areas. Commercial fishing is primarily composed of small-scale commercial fishing boats, with a small number of large-scale commercial fishing boats in Indonesia.²¹



Figure 3 - Verité Photo

There are two primary types of anchovy boats found in North Sumatra. Large boats weigh more than 20 tons and have more on-board equipment. They are able to go on fishing trips of up to ten days. Smaller boats lack room for storage and navigation systems – these boats only go out for one day at a time, so workers do not sleep on the boats.

Fishers on large boats usually work about 20 days per month. Their fishing trips are guided by the lunar calendar and the weather. Depending

on the size of the boat, crews can include at least ten people. The boat crew is organized into a clear hierarchy, with an admiral at the top, assisted by a manager, mechanic and cook, and many workers.

Fishing boat work is labor intensive and carries high physical risks for workers. The ILO has identified fishing as one of the most hazardous types of work.²² Hazards include casualties due to bad weather or loss of power, inadequate or unsuitable boat construction, becoming entangled in nets or ropes, or capsizing due to gear snags or the downward pressure of a large catch during the last stage of net hauling.

Working conditions on small fishing boats has been poorly documented. In 2004, the International Program on the Elimination of Child Labor published *Child Labor in Offshore Fishing, North Sumatra: A Rapid Assessment*, detailing labor abuses on fishing boats in Indonesia. The report found that children and adults surveyed worked between ten and 12 hours a day but up to 19 hours without sleeping or resting, without safety gear or proper tools. Most respondents received no vegetables, fruit or milk while at sea.²³

In December 2011, the Indonesian Seafarers' Association condemned the deaths of five Indonesian fishers on a Korean flagged fishing boat who were recruited by a human trafficking syndicate in Jakarta. The workers were paid USD 180 per month, when the

minimum wage on fishing ships is USD 550 per month.²⁴ United Fisheries, a New Zealand fishing company, has been charged in several slavery-related claims by Indonesian fishers.²⁵

Extreme labor exploitation on fishing boats in Indonesian waters has been documented on boats hailing from Cambodia, Thailand, and Burma, among others.²⁶ About 3,000 miles east of Jakarta, the remote island of Tual has become a depository for hundreds of exploited Burmese fishers who are no longer deemed useful or who have escaped the boats on which they were held in servitude.^{27 28}

Blast Fishing

In blast fishing, fishers watch for schools of fish in coral reefs or in open water, position their boats approximately five meters from the school, then throw a home-made bomb made from ammonium nitrate mixed with fertilizers and fuel oil into the water. Fishers dive into the water after the blast to collect fish that are killed or stunned by the explosion.

Blast fishing is relatively common in South Sulawesi; one report estimates that more than 75 percent of fishers practice blast fishing.²⁹

The most common catch from blast fishing is a mix of mullet, scad, and sardines; grouper, snapper, surgeonfish, and rabbitfish are rarer.³⁰ Previous research has attributed increasing demand for these types of fish to increased demand for exports and well as the expansion of tourism in the area.³¹ Fish processing companies with access to international markets have opened in the provincial capital, Makassar, where fish harvested through blast fishing are sold to middlemen. Catch from blast fishing is destined for the domestic market due to its fragile condition.

Research on forced labor in blast fishing for the current study was conducted in the Spermonde archipelago, which consists of over 100 small islands off the coast of South Sulawesi in the Makassar Strait.^{32 33} The spread-out nature of these islands, combined with a low population density, make them hard to patrol or monitor. Kodingareng, the island in which research was carried out, is one of the smaller Spermonde islands, at about 48 square kilometers, with a population of 4,200.³⁴

People

Indonesian fishing activity provides over six million persons with direct employment, consisting of approximately 3.8 million fishers and 2.3 million fish farmers. With the typical Indonesian family unit numbering five people, the fishing sector is estimated to support 34 million people throughout the country.³⁵ This number is much higher when illegal fishing is included.

Of those working in capture fishing, most (3.3 million) gain their livelihood from the sea, although about a half million work in inland (river and lake) capture fishing.³⁶ The fishing methods discussed in this report, including blast fishing, small-boat fishing, and *jermals*, all fall into the marine capture category.

Employment in the Indonesian fisheries sectors, 2003.³⁷

Category	2003
Capture, comprising	3 857 597
- marine	3 311 821
- inland	545 776
Culture	2 384 238
Total	6 241 835

Much of the fishing in Indonesia follows patterns of traditional patronage relationships. For example, fishers involved in anchovy boat fishing in North Sumatra are involved in a traditional fishing structure in which power is concentrated with boat owners and their admirals. Fishers must maintain good relationships with these powerful individuals to maintain the right to continue fishing with them. There are two main types of actors engaged in blast fishing. The boat owner is the 'boss' (referred to as the *juragang*) and provides necessary materials such as explosives. The fishers themselves are known as the *sawi*. They accompany the *juragang* on the fishing trip and share in the catch. The *juragang* sells fish caught by the *sawi* at the mainland market, thereby acting as a middleman. In some cases, *juragang* can secure "connections" with government officials, essentially paying a bribe to protect his crew from harassment.³⁸

In small boat fishing, the admiral and boat owners provide loans to workers and capital for the venture.

Policies

The main fisheries authority in Indonesia is the Ministry of Marine Affairs and Fisheries (DKP). According to key informants interviewed by Verité, after decentralization laws were enacted in 1999, local government at the district level was assigned to manage manpower affairs. Central government is tasked with policy making, guidance, advisory, and assistance roles but local governments are tasked with ensuring that laws and

policies are implemented on the ground through dissemination of policy and law, inspection, and program implementation. However, local governments often lack capacity and infrastructure to implement programs or to carry out monitoring and inspection. Currently, all districts in North Sumatra have only 80 inspectors, including 19 provincial inspectors. Further, inspectors rarely have capacity at the level of informal employment, such as fishing, where vulnerable populations are likely to work.

While there is much fishery legislation in Indonesia, little of it deals directly with issues of forced labor. At the national level, fisheries and aquaculture are regulated by Fisheries Law No. 31/2004(2004). Provincial Governments are held responsible for the management, use and conservation of marine resources in their own territory, within territorial waters under Law No.22/1999 on Regional Administration (1999). The 2011 Fisheries Law³⁹ states that the Government shall consider small fishers and small fish breeders as a protected category and provide them with loans, local or foreign funds, education and training.⁴⁰

Since 1998, Indonesia has ratified all eight International Labor Organization core conventions on protecting internationally recognized worker rights and allowed trade unions to organize. However, the US State Department notes that enforcement of labor laws and protections of workers' rights remain inconsistent and weak in some areas.⁴¹ The minimum age for employment in Indonesia is 15 years. Despite laws forbidding child workers aged 14 and younger in all economic sectors, economic necessity and a lack of alternatives continue to force or encourage the employment of children.⁴² Indonesia's slow economic recovery has pushed more workers into the informal sector, which reduces legal protection and creates conditions for an increase in child labor.⁴³

Indonesia passed a comprehensive anti-trafficking bill in April 2007. The bill criminalizes debt bondage, labor exploitation, sexual exploitation, and transnational and internal trafficking. Penalties range from three to 15 years of imprisonment. The bill also contains provisions to prosecute corporate entities and government officials involved in trafficking. Penalties under the Child Protection Act for child trafficking are three to 15 years of imprisonment.⁴⁴

Indonesia is surrounded by several large Regional Fisheries Management Organizations (RFMOs) which include the Regional Plan of Action to Promote Responsible Fishing, the Sulu-Sulawesi Marine Ecoregion Program, the Indian Ocean Tuna Commission (IOTC) and The Western and Central Pacific Fisheries Commission (WCPFC).⁴⁵ However, these organizations focus on overfishing and illegal fishing, not labor issues.

In June 2011, fishing policies were approved that regulate the involvement of foreign fishing companies in Indonesia. For example, foreign companies wishing to establish fishing operations in Indonesia must have integrated fishing operations, meaning that these companies must not only have fishing boats but processing operations in Indonesia as well. Additionally, the export of fresh fish from Indonesia is not allowed. The fish must first be processed in Indonesia, and only processing companies may

export this processed fish. Further, there are strict limits on how many workers on board a vessel may be foreign workers. Within six years, all workers on fishing vessels must be Indonesian in order to receive a permit to continue operating. As boat owners try to staff their vessels, they will have to select workers from a smaller pool of workers without the possibility of hiring foreign workers. This may give workers increased leverage in terms of negotiating pay and working conditions.

The Maritime Affairs and Fisheries Ministry plans to increase Indonesia's fish production to 22.39 million tons by 2015, a significant jump from the 14.87 million tons targeted for 2012. The Ministry estimated that production could reach 12.3 million tons in 2011, up from 11.2 million tons in 2010.

The National Action Plan against Child Labor was launched in 2002 by Presidential decree. Measures of the National Action Plan (NAP) included awareness raising, education, and training of school dropouts; removal of child workers from offshore fisheries, drug distribution, and the footwear industry; a survey of child workers; and training of labor inspectors. According to information supplied by the government, 19,863 children were prevented from entering child labor and its worst forms and 10,922 were removed from such activities in 2006; 28,863 were prevented from entering child labor and its worst forms and 13,922 were removed from such activities in 2007.⁴⁶ Under the NAP, national and local governments undertook an extensive monitoring process to identify and withdraw children working on *jermals*. The NAP also increased legal penalties for *jermal* owners found to be employing children, making the practice significantly less attractive to *jermal* owners, who, prior to the program, reportedly colluded with maritime officials to easily avoid any penalty.

Programs

Several international organizations have a long history of working in the Indonesian fishing industry including the ILO, USDOL, and the WWF. Major fishing and/or labor-related programs in Indonesia are listed below by organization

Programs on Fishing and/or Forced Labor in Indonesia

Organization	Activities
Asian Development Bank	ADB is involved in coral reef rehabilitation and providing support for the development of sustainable inshore fisheries management in Indonesia. A USD 33 million loan is supporting work to develop sustainable coral reef fishing in six districts in three provinces of Sumatra. ⁴⁷
DFID	In 2005, DFID launched an action plan with the Department for Environment, Food and Rural Affairs to combat illegal fishing in Indonesia and several other countries. ^{48 49} The project is focused on environmental sustainability.
ILO	<p>In December 2011, the FAO and ILO published a preliminary version of <i>Good Practice Guide for Addressing Child Labor in Fisheries and Aquaculture: Policy and Practice</i>.⁵⁰ Key messages of the guide are that a child is a person under 18 years of age and that there is a need to distinguish between acceptable work performed by children and child labor.⁵¹ “Child labor is by definition harmful and unacceptable and should be abolished.”⁵² The Guide provides an overview of current information on child labor in the fisheries and aquaculture sector and of existing international legal and policy frameworks.</p> <p>In 2007, the ILO established the Work in Fishing Convention, 2007 (No. 188), and its accompanying Work in Fishing Recommendation, 2007 (No. 199) to ensure that “fishers have decent conditions of work on board fishing vessels with regard to minimum requirements for work on board; conditions of service; accommodation and food; occupational safety and health protection; medical care and social security.”⁵³ While the Convention was adopted in 2007, it will not come into effect until it is ratified by 10 of the ILO’s 180 member States.⁵⁴ The ILO’s Action Plan 2011-2016 involves data collection, training workshops, development of model legislation, and capacity building towards ratification and implementation of the convention.⁵⁵</p> <p>The ILO has several programs on sex trafficking and child labor. NORAD sponsored the ILO’s Combating Forced Labor and Trafficking of Indonesian Migrant Workers from 2006-2008, but fishing is not specifically addressed.⁵⁶</p>
Norway-NORAD	NORAD does a lot of work in marine research and statistics. ⁵⁷ NORAD is also active in human rights activities in Indonesia, beginning in 2002, mainly related to political consultations at the state secretary / cabinet

	minister level and seminars involving Norwegian and Indonesian experts from research communities, public institutions and NGOs. Programs focus on human rights education, legal reform, human rights in the military and security sectors. ⁵⁸
UNDP	UNDP works with local partners through the Small Grants Program to end cyanide fishing and protect coral reefs in Bali. Projects include training of community organizers to catch ornamental fish by using nets and coral transplantation and biological monitoring. UNDP and the GEF Small Grants Program also helped its local partner-grantees to establish a community-owned trading company. The fishers and traders in the company were trained in fish handling and packaging, and were able to obtain trading and transportation permits to export ornamental fish. The company then started selling its products in Europe, Singapore, Hong Kong, Japan and Israel. Several provinces, including regions in Bali, West Java, Sulawesi, Nusa Tenggara and Papua, have replicated policies and practices from the program. ⁵⁹
UNEP-WCMC	Reefs at Risk in Southeast Asia (RRSEA) is published by WRI, the UN Environment Program World Conservation Monitoring Center (UNEP-WCMC), ICLARM - The World Fish Center, and the International Coral Reef Action Network. Funds for the project are provided by the David and Lucile Packard Foundation, the Swedish International Development Cooperation Agency (SIDA), the United Nations Foundation (UNF), and USAID. ⁶⁰
USDOL	<p>The U.S. Department of Labor (USDOL) has financed projects on the elimination of child labor in Indonesia valued at over US\$26 million over the last 10 years. Fishing-related programs include the Program to Combat Child Labor in the Fishing Sector in Indonesia and the Philippines—Phases I and II (1999-2004), Fishing and Footwear Sectors Program to Combat Hazardous Child Labor in Indonesia, Phase II (2002-2004), Support to the Indonesian National Plan of Action and the Development of the Time bound Program for the Elimination of the Worst Forms of Child Labor (Including Aceh Addendum) (2003-2008), Enable Program: Enabling Aceh to Combat Exploitation Through Education (Enable/Aceh) (2005-2009), and to some extent Combating WFCL Through an Area-Based Approach (EXCEED) (2009-2013).^{61 62 63}</p> <p>In 2010, the USDOL was involved in two multiyear projects, totaling USD11.2 million, that target children exploited in or at risk of being exploited in many industries.^{64 65} Neither project specifically targeted the fishing industry.</p>
USAID	For fishing, USAID focuses on improved management of marine ecosystems through Coral Triangle Support Partnership – Indonesia (CTSP-I) with partners WWF, Indonesia Marine and Climate Support (IMACS) Project with partner Chemonics, and the National Oceanic and

	Atmospheric Administration (NOAA) Training Program
World Bank	The World Bank has many development projects in Indonesia, but has no specific fishing projects dealing with labor. For example, in 2005, the World Bank awarded Indonesia a USD 56.2 million loan to rehabilitate some of the country's most threatened coral reefs and establish effective management of these coral reef fishing resources. ⁶⁶
WWF	<p>The World Wildlife Fund is active in Indonesian Fishing programs. In August 2010, the WWF signed a Memorandum of Understanding (MoU) with the Ministry of Marine Affairs and Fisheries (MMAF) to further sustainable development on marine resources management practices, which also has a research and policy development component. At the one-year anniversary of the MoU signing, the WWF noted that progress is slow on implementing the initiatives.⁶⁷</p> <p>WWF, with partners TNF, Wakatobi National Park Office, Wakatobi community organizations, and Komunto, an organization composed of fishers, has developed the KOMUNTO “fish bank” model, which has been adopted by other local fishing communities. The model outlaws explosives and sedatives. The program won the Equator Initiative Prize in 2010.⁶⁸</p> <p>WWF's Coral Reef Alliance is focused on eco-tourism and is not labor-related. Partners include Conservation International, the Head of the Regency Government (Bupati), and the Nature Conservancy.⁶⁹</p>

CSR in the Fishing Industry in Indonesia:

Fishing as a CSR concern tends to focus on sustainable fishing and mitigating negative environmental impacts on coral reefs. Labor issues are not generally well-addressed.⁷⁰ The Indonesian CSR Awards, given out every three years, is organized by the Ministry of Social Affairs and the Corporate Forum for Community Development (CFCD). No fishing companies have received the award.⁷¹

In 2007, Indonesia became the first country in the world to pass a CSR law, Article 74, requiring companies to provide funds for CSR. Article 74 stipulates firms must allocate budgets for CSR programs and the programs must be run according to government regulations.⁷² Unfortunately, there was no government enabling legislation for the article until October 2011, rendering Article 74 practically ineffective.⁷³ How to implement Article 74 in Indonesia is a key topic at the 1st International Conference on Corporate Social Responsibility, Business and Human Rights in May 2012 in Jakarta.⁷⁴

In the context of using the CSR tax for development of Indonesia's fishing industry,⁷⁵ the Ministry of Marine Affairs and Fisheries (MMAF) announced plans in January 2012 to revitalize traditional fishponds on the north coast of Java. As part of this initiative, the MMAF asked the government for financing for fishers and fish farmers, saying if they have trouble accessing financing, they will depend on loan sharks and it will be difficult

to increase production. As a first step, around 8,000 fisheries extension agents will conduct baseline data collection in early 2012.⁷⁶

The Code of Conduct for Responsible Fisheries⁷⁷ was established in 1999 “to establish principles, in accordance with the relevant rules of international law, for responsible fishing and fisheries activities, taking into account all their relevant biological, technological, economic, social, environmental and commercial aspects.”⁷⁸ A WWF report in 2009 evaluating the impact of the Code in Indonesia gave the country a fail grade for “the health of fisheries, fishing communities, and the ecosystems they depend on.”⁷⁹ ⁸⁰ The NGO Friends of the Sea offers certification in sustainability, and the Global Aquaculture Alliance provides certification in its Best Aquaculture Practices (BAP) for tilapia farming.⁸¹ There does not appear to be a labor component to any of the Codes.

Responsibly sourced seafood is a growing CSR trend for retail chains in the US and Europe. Companies such as Target vow to only sell sustainable and fully traceable fish by a specific date – in Target’s case, by 2015.⁸² Retailers sourcing fish responsibly from Indonesia include Harris Teeter⁸³, Whole Foods, Wal-Mart, Safeway, Target⁸⁴, and Tesco (UK), among others.⁸⁵ Most of these retailers use the Marine Stewardship Council’s eco-label, which requires chain of custody certification. To date, the Sustainable Seafood label does not overtly discuss labor rights, although one of the three core components is that “the fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.”⁸⁶

Billed as a CSR Initiative, the Lesser Sunda Sustainable Fisheries Initiative concerns a group of stakeholders and supporting organizations including the Nature Conservancy, the World Bank, World Wildlife Fund, Sustainable Fisheries Partnership and the Indonesian Department of Marine Affairs. The program includes education and training programs, sustainability elements, and access to financing. North Atlantic, Inc. (S-Corp), a Portland, ME-based seafood processor and distributor is the primary leader in the design, capital formation and execution of the Indonesian fisheries business model.⁸⁷

Another new CSR/sustainability initiative in Indonesia is “Seafood Savers”, a WWF program to implement eco-friendly business practices and traceability in the marine and fisheries sector. It covers major players in the fishery industry, such as producers, suppliers, buyers, retailers, and financial institutions. Sea Delight, LLC, a Miami-based importer and UD Pulau Mas, a major Indonesian fish supplier, are leaders in the program.⁸⁸

Methodology & Limitations

Verité's research in Indonesia initially aimed to research indicators of forced labor on fishing platforms (*jermals*) in North Sumatra province. This research was subsequently expanded to examine small-boat anchovy fishing in North Sumatra, and blast fishing in South Sulawesi province. Researchers expanded their investigations into small-boat anchovy fishing to give a more complete picture of the anchovy supply chain in North Sumatra (as *jermals* also catch anchovies). Blast fishing was selected due to the high level of regional production, and a lack of understanding of labor implications.

The research design used a combination of qualitative and quantitative methods (non-probability sampling). Quantitative data was gathered via surveys using both convenience and snowball sampling to select respondents. Therefore, the quantitative findings from this study are biased by the use of nonprobability sampling. The quantitative portion of the research was not meant to be statistically representative at the national or sectoral level, but to offer trends, analysis, and insight into conditions facing workers in the sectors studied.

Qualitative data was gathered by including more informal interviews with workers and stakeholders, worksite observation, focus groups, and case studies. The qualitative findings were used to add greater detail to the quantitative findings, and to triangulate quantitative findings.

The following broad priorities guided the research:

- collecting and updating existing information on the demographics and livelihood strategies of workers in *jermal*, blast and small-boat anchovy fishing in Indonesia;
- documenting working conditions and identifying any existing indicators of forced labor within these fishing sectors; and
- describing the circumstances that contribute to worker vulnerability to forced labor within these fishing sectors.

Verité's field research team was led by a Jakarta-based legal and labor rights specialist.⁸⁹ Field research was carried out by a lead researcher and teams of local researchers that had both experience with the fishing sector and labor issues, and solid connections with the communities of concern. In North Sumatra, the team comprised two independent consultants, with academic and practical experience that provided them with strong understanding of, and relations with, the island communities and the fishing industry.

The research commenced with a literature review, expert consultations, and a rapid appraisal process.⁹⁰ Field research comprised worker surveys, focus group discussions, and case studies. Upon completion of the field research, the data were collated, cleaned, and analyzed by the Indonesia-based team, and then further analyzed and condensed by Verité.

Research Design

Verité's methodology was anchored in the principles of the ILO's Convention 29, which contains the internationally accepted definition of forced labor. The presence of forced labor was not presupposed in the research. Rather, the research probed for the presence of indicators of forced labor and other exploitative labor conditions, as established by the ILO in "Identifying Forced Labor in Practice", which was published by the Special Action Program on Forced Labor in a 2005 report, *A Global Alliance Against Forced Labour: Global Report under the Follow-Up to the ILO Declaration on Fundamental Principles and Rights at Work*.

At the start of the research initiative, categories for indicators of forced labor were developed based on ILO guidance that breaks down indicators of forced labor into those related to lack of consent and to menace of penalty, as shown below.⁹¹

Box 1: Identifying forced labour in practice

Lack of consent to work (the "route into" forced labour)

- Birth/descent into "slave" or bonded status
- Physical abduction or kidnapping
- Sale of person into the ownership of another
- Physical confinement in the work location – in prison or in private detention
- Psychological compulsion, i.e. an order to work, backed up by a credible threat of a penalty for non-compliance
- Induced indebtedness (by falsification of accounts, inflated prices, reduced value of goods or services produced, excessive interest charges, etc.)
- Deception or false promises about types and terms of work
- Withholding and non-payment of wages
- Retention of identity documents or other valuable personal possessions

Menace of a penalty (the means of keeping someone in forced labour)

- Physical violence against worker or family or close associates
- Sexual violence
- (Threat of) supernatural retaliation
- Imprisonment or other physical confinement
- Financial penalties
- Denunciation to authorities (police, immigration, etc.) and deportation
- Exclusion from future employment
- Exclusion from community and social life
- Removal of rights or privileges
- Deprivation of food, shelter or other necessities
- Shift to even worse working conditions
- Loss of social status

Information about wages and hours was also included in Verité's study, as wage and hour violations may constitute indicators of forced labor.

The research process began with initial meetings in Jakarta to conceptualize the project, identify the sectors and locales to be researched, and develop an appropriate methodology.

Existing research was reviewed, and contacts were made with experts in the fishing industry. It was at this stage that it was determined that the practice of *jermal* fishing was in a steep decline and essentially dying out. To enhance the value and policy relevance of the research effort, therefore, the team broadened the literature review, expert consultation, and appraisal process to include an assessment of other potential areas of concern within various fish supply chains of Indonesia. Given that the primary yield of *jermal* fishing is anchovies, researchers first expanded their investigations in North Sumatra to include small-boat anchovy fishing, an industry that has been associated with the potential for induced indebtedness and child labor. The eventual decision to include blast fishing in South Sulawesi Province as well was made for several reasons: the region contributes significantly to national fish production; the incidence of illegal fishing⁹² is high; the environmental aspects of blast fishing are well-documented and have garnered international attention, but labor practices are relatively poorly understood; and the possibility of induced indebtedness, child labor, and patron-client dependency between boat captain and fisherman were identified.

Once the three target areas of research were established, additional expert consultations and desk research were carried out to identify critical areas of concern relating to labor and human rights, and to highlight key lines of questioning to be pursued. Based on this preliminary research, specific research questions were developed, including:

- questions designed to solicit basic demographic data on workers and supervisors involved in *jermal*-, blast- and small-boat anchovy fishing:
 - age
 - sex
 - household composition
 - employment history
 - community of origin
- questions designed to solicit basic data on the establishment:
 - name and location of the *jermal* or boat
 - number of years of operation
 - fishing area covered by the *jermal* or boat
 - general physical condition of the establishment
- questions designed to solicit information on working conditions:
 - wages and payment mechanisms
 - wage levels
 - evidence of delayed payment, withholdings, deductions
 - currency of payment – in cash or in kind

- hours of work
 - average levels and highest levels
 - evidence of compulsory/forced overtime
- verbal / physical harassment
- health and safety
- questions designed to solicit information on entry into the sector:
 - recruitment patterns
 - evidence of lack of consent, deception, fees paid, loans taken
- questions designed to solicit information on existence and circumstances of debt:
 - presence of debt
 - circumstances of debt – reason for borrowing, interest, to whom debt is held, whether it acts as a binding agent, whether it is inherited
 - patterns of debt-taking
 - payment arrangements
- questions designed to solicit information on freedom of movement and ability to terminate employment
- questions designed to solicit information on presence and nature of child labor:
 - demographic information on child laborers
 - information from parents on decision for child to work, entry into sector
 - working conditions of child
 - living conditions of child
 - debt held by child or child's parents

Research teams were trained on the use of survey instruments and appropriate techniques for accessing and gathering information from vulnerable populations. Given that many respondents do not think of themselves as being in situations of forced labor or extreme exploitation, researchers were instructed not to use these terms, but rather to ask questions about specific indicators of forced labor or extreme exploitation. Researchers additionally used information gleaned from observation of the work establishments themselves, and from interviews with community leaders, NGO representatives, and government workers to triangulate the direct reports from workers.

In addition to workers, a broad range of other key informants were consulted for the research, including:

- *Jermal* supervisors and owners
- Fishing boat supervisors and owners
- Worker families
- Village leaders
- Fishers community leaders
- Local NGOs
- Government offices
 - Local statistic bureau office,
 - Manpower office of North Sumatra
 - Ministry of Fishery official
- Fisherman Associations
- Academic experts

- International organization officials

Timing

The research was timed to coincide with peak, middle, and low seasons of fishing activity. Indonesia occupies a cross position between the Indian and Pacific Oceans, and the country has several distinct fishing seasons:

- a westerly monsoon, or wet season (known locally as the “West Season”), which runs from December through March, when rains are heavier, winds and waves strong, and the boat fishing difficult – this is the high season for *jermal* fishing though, as fish tend to reside in waters closer to shore during the monsoon season;
- a relatively dry, southeasterly monsoon season (known locally as the “East Season”), when rains are relatively light, the waves and wind relatively calm, and the fishing is good – this season runs from June to September;
- two “transition” seasons, in April-May and October-November, when rain is frequent but the waves and wind are weaker – these seasons are also considered good for boat fishing.

The first round of field research took place from September 2010 to January 2011. During this round, researchers observed and interviewed *jermal* workers, blast fishers, and small-boat fishers. Community members and other local stakeholders were also interviewed. A second round of field research was conducted from April through August of 2011. During this second round, more targeted research was performed to follow up on trends and questions elicited from the first round of research. Interview respondents were asked to report on their conditions of work over the previous year, with the exception of former *jermal* workers who reported on their experiences during whatever period of time they had worked on the *jermals*. Case studies and focus group discussions were held at this time. A final round of expert consultations was held in early 2012, to present and validate research findings, and solicit policy recommendations from key experts and stakeholders.

Location and Scope of Research

Platform (Jermal) Fishing in North Sumatra Province

Jermal fishing is traditionally restricted to the province of North Sumatra. *Jermals* are large platforms (approximately 15 meters by 10 meters, according to researcher observation) located either close to shore, or anywhere from five to 18 miles from shore in the open ocean, suspended several meters above the water on pillar-like log supports. Researchers targeted the off-shore platforms for research, given that these were the platforms where child labor and extreme exploitation had been identified in past research.

Researchers sought to establish the sample universe through consultation with local community leaders and fishers, and based on the first-hand knowledge of *jermal* locations of one member of the research team.

Researchers established the continued existence and operation of 12 *jermals*. All 12 were visited.

A total of 76 *jermal* workers were interviewed, including 56 current⁹³ *jermal* workers; and 20 former⁹⁴ *jermal* workers. Among current workers, three workers were under 18: one 16 year old and two 17 year olds. All workers interviewed were male. Further demographic characterization of workers interviewed is provided in the *Demographic Characteristics of Respondents* section.

15 surveys were administered to *jermal* supervisors.

Small-Boat Anchovy Fishing

Research on small-boat anchovy fishing in North Sumatra was carried out in the ports of Belawan and Tanjung Balai. These two ports were chosen because of their status as the two biggest producers of anchovies in North Sumatra.

A total of 212 workers involved with the small-boat sector were interviewed including 100 adults and 112 children ages nine to 17. Approximately 70 children interviewed worked directly on boats and the remaining children worked in anchovy workshops or in other auxiliary tasks (described in the Case Study in *Appendix I*.) Further demographic characterization of workers interviewed is provided in '*Demographic Characteristics of Respondents*.'

Blast Fishing

The Spermonde archipelago, where research was conducted, is comprised of a total area of 40,000 hectares and consists of over 100 small islands. The islands are located off of the coast of South Sulawesi in the Makassar Strait, and about 54 are populated.⁹⁵ Most have only been populated since World War II.⁹⁶ The spread-out nature of these islands, combined with a low population density, make them hard to patrol or monitor.

Kodingareng, the island in which research was carried out, is one of the small Spermonde islands. The island is administratively part of the Makassar government district. The island is small (about 48 square kilometers). The population of the island is approximately 1,200.⁹⁷ The education level of the residents is low, with most having only an elementary level education.⁹⁸ Previous research found approximately 20-30 blast fishing bosses (*juragang*), each with approximately six workers (*sawi*); and a number of other boats practicing trawl-net and *bagang* (purse seine) fishing. An estimated 55 to 75

percent of all boats on the island practice some kind of illegal fishing.⁹⁹ Other livelihoods on the island include more traditional types of fishing, small-scale vending, government work, and construction.¹⁰⁰

Kodingareng was chosen for research for three primary reasons. First, previous research had determined that a high percentage of boat fishing activity on the island was illegal.¹⁰¹ Second, the total population of boat fishers was established by previous research.¹⁰² Finally, Kodingareng was selected because two members of the Verité research team had good knowledge of and relationships with the blast fishing communities on the island and had participated in previous environmental research there. Thus they were known to and trusted by the communities on the island and could therefore facilitate access to the somewhat secretive blast-fishing industry.

Verité researchers interviewed a total of 64 respondents involved in blast fishing, including 22 child and juvenile workers and 42 adults. Further demographic characterization of workers interviewed is provided in the *Demographic Characteristics of Respondents* section.

Sampling and Access

Jermals

In the case of *jermals*, research was conducted among two populations: current and former *jermal* workers. Research conducted on *jermal* platforms were establishment surveys, in which informal interviews were collected from supervisors, general observation of the establishment was performed, and formal surveys were conducted with 76 *jermal* workers, of which 56 were current works and 20 were former workers.

Researchers identified what they believe to be the last 12 remaining *jermals* and conducted research at each of these.

Researchers first notified community leaders and *jermal* owners of the study and their desire to visit the *jermals*. Permission was obtained, and boat transportation was then arranged. Because it could take up to four hours of boat travel to reach a *jermal*, a visit to one *jermal* required a full day's research. Research was contingent on good weather conditions, and accessing the *jermals* was somewhat dangerous because only small boats were available for transportation, and the waves on the open sea were sometimes quite large.¹⁰³

Due to the small physical space of the *jermal*, supervisors were present for all interviews with current *jermal* workers, which severely limited the ability of current *jermal* workers to be honest about the conditions of their work. Interviews with former *jermal* workers were conducted to fill in details about these conditions, as well as mechanisms of coercion.

Former *jermal* workers were identified by snowball sampling, and no claims are made for statistical representativeness. Verité researchers consulted with community members to identify former *jermal* workers who would be willing to engage with researchers, and spoke with them in their home communities in North Sumatra.

Small-Boat Anchovy Fishing

Convenience samples were drawn among small-boat anchovy fishes and 127 respondents were interviewed. 115 respondents were adults and 112 respondents were children.

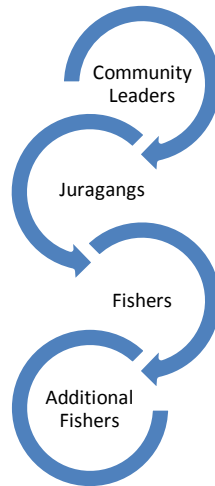
Researchers first approached community leaders to obtain a list of all boat owners and their admirals in each of the two ports. Admirals were then approached to obtain the names of their crew members. Adult and child fishers were approached and were asked if they would be willing to participate in the research. Adult and child fishers were interviewed in their homes where boat admirals were not present.

Access to the port towns was straightforward, with clear transportation routes and readily accessible modes of transport. Access to the boat fishers and to workers in anchovy workshops was similarly straightforward and unrestricted. Researchers were able to board fishing boats for informal observation, but did not travel along with the fishers on fishing trips.

Blast Fishing

Kodingareng is geographically remote, and access is somewhat challenging; one must arrange to travel there by small, irregular boat. Access to workers was particularly challenging in this case. Because of the illegal nature of the work, the industry operates essentially underground, and fishers are especially hesitant to interact with outsiders. Access was facilitated by a member of the Verité research team with local connections.

Blast fishers were selected for interviews using convenience and snowball sampling. Researchers first identified a set of *juragang* through networking with community leaders. These *juragang* were approached, rapport was established, and the *juragang* were asked to provide names of the boat crew for interviews. After these interviews were conducted, snowball sampling techniques were used to identify additional respondents.



*Blast Fishing Snowball Sampling Chain

Ultimately, 64 blast fishers were interviewed, including 42 adults and 22 children. Researchers interviewed respondents in a variety of settings, including at ports, in their communities of residence, and on-board boats during fishing trips. The bulk of interviews were conducted at fishers's homes. While the interviews aboard boats might have compromised the ability of workers to reply candidly to direct questions, other valuable information was gained through observation; and data gained directly from workers was triangulated with findings from workers interviewed in private settings.

During the research, the Verité team was able to ride along and observe a blast fishing trip. At that time, the target fishing area was the water around the Kalmas Islands in West Sulawesi, close to the Kalimantan border. It took 13 hours just to reach the fishing waters, at a shallow-reef location called *Taka* in the local language of Lensi. This location is a favorite fishing spot for blast fishers, since it is shallow and can be accessed easily by divers.

Data Verification and Analysis

Following completion of the field research, the raw data were reviewed, cleaned, and entered into a spreadsheet. Reporting of findings by the Indonesia-based researchers was largely narrative and ethnographic in form, although quantitative raw data were also submitted to Verité headquarters in spreadsheet form. Verité staff performed further quantitative analysis of the raw data to verify the accuracy of the qualitative findings.

Verité also conducted a post-hoc analysis of data in all six country studies by applying a larger set of forced labor indicators issued by the ILO in December 2011 (*Hard to see, harder to count: Survey Guidelines to Estimate the Forced Labour of Adults of Children*), which are intended for use in forced labor survey design and analysis but which were not available at the time the fieldwork was carried out. For these results, please see Appendices III, IV, and V.

Limitations

The ILO has recently noted the numerous difficulties associated with meaningful sampling of populations potentially involved in forced labor.¹⁰⁴

Because this study is not statistically representative at the national or sectoral level due to the use of non-random sampling, findings should not be generalized to the entire population or to establish prevalence. However, clear patterns emerged, and once triangulated with other sources, findings can point to the existence of trends and offer insight into realities facing workers in the fishing sector in Indonesia.

On the 12 identified remaining *jermals*, research findings were compromised by the inability to access workers without supervisors present. Thus, an accurate understanding of their working conditions is left somewhat to speculation. Interviews with former *jermal* workers, while providing a more robust picture of conditions, were based on a small and unrepresentative sample that consequently yielded data that are somewhat outdated. It appeared that no former worker had worked on a *jermal* since the launch of the National Action Plan against Child Labor in 2004. Thus, some of the associated findings should be interpreted with caution. In particular, it seems likely that current *jermal* workers underreported incidents of abuse and other negative working conditions due to the presence of supervisors during the interviews. However it should be noted that not all findings were affected by this source of bias. The demographic profile information about mentally disabled workers, for example, is accurate.

Findings for small-boat anchovy fishers are limited by the small sample size, and by a geographic focus on only two ports -- Belawan and Tanjung Balai. However, as noted above, these ports are the two biggest producers of anchovies in North Sumatra.

Sample sizes for blast fishers and small-boat anchovy fisherman were determined by a combination of opportunities for access and research resources available, rather than on calculations of statistical significance. The focus of the research was on gaining in-depth insight into the labor conditions within these sectors.

The study of blast fishers is limited both by the sample size and by its geographic concentration on one small island. Therefore the findings cannot be said to be representative of South Sulawesi province more broadly, or of the nation as a whole. However, based on expert consultation, the researchers have fair confidence that the patterns and dynamics of blast fishing on Kodingareng are reasonably similar to elsewhere in the Spermonde Islands of South Sulawesi province. There is also the potential for bias stemming from the illegal nature of blast fishing; subjects may have withheld or shielded researchers from key information.

Finally, researchers gained only limited access to child workers without supervisors present.

Research Findings

Major research findings are reported in three separate sections, for platforms/*jermals*, small-boat anchovy fishing, and blast fishing. Findings from a small case study of anchovy workshops in North Sumatra are located in Appendix III.

The findings cover 1) Demographic characteristics 2) Presence of Forced Labor Indicators and 3) Other Issues of Concern.

The categories for indicators of forced labor are based upon the ILO's guidance on "Identifying Forced Labor in Practice," which are broken down into lack of consent and menace of penalty.¹⁰⁵

Information about wages and hours has also been included, as wage and hour violations may constitute indicators of forced labor. Although the presence of these indicators signals an increased risk for forced labor, each case must be assessed individually to determine the interplay of indicators and the context to determine whether or not it rises to the level of forced labor. The following findings are based on worker interviews, as well as researchers' direct observations, expert consultations, and a comprehensive literature review.¹⁰⁶

Platform (*Jermal*) Fishing in North Sumatra Province

Introduction and Current Understanding



Figure 4 - Verité Photo, *Jermal*

Jermals are a means of anchovy fishing used in the North Sumatra region of Indonesia, which is the largest producer of white anchovy in Indonesia.¹⁰⁷ *Jermals* are large platforms (approximately 15 meters by 10 meters, according to researcher observation)

located either close to shore in bays and among coral reefs, or anywhere from five to 18 miles from shore in the open ocean, suspended several meters above the water on pillar-like log supports. It takes between one and four hours by small fishing boat to reach the off-shore platforms. Workers live and sleep on *jermals* for periods up to three months. *Jermals* are primarily constructed from wood.

About two-thirds of the *jermal* is an open-air platform area. The other third has a hut-like structure which is used to process fish (through boiling, drying and sorting), store processed fish, and provide shelter for workers.

The practice of *jermal* fishing rose to prominence as a means of catching anchovy because fishers believe that anchovy are attracted to the wood pillars supporting the *jermal* structure. Once anchovy have been funneled to the center of the *jermal*, nets hung underneath the deck are pulled up by hand. The fish caught in the net are then sorted and then boiled and dried.



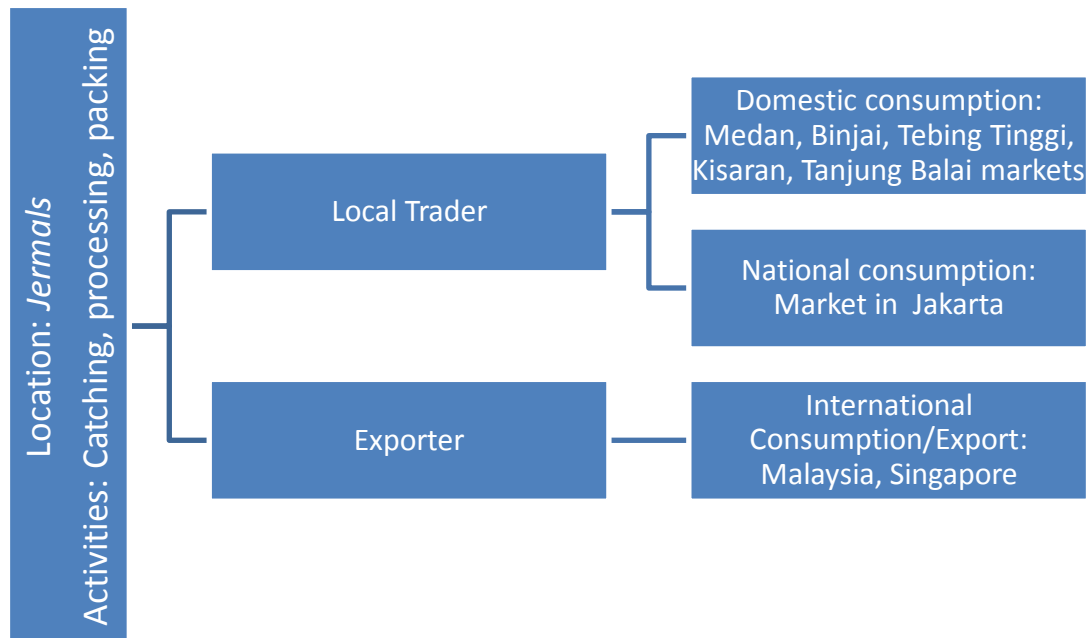
Figure 5 - Verité Photo, Nets under *jermal*

The large fishing nets on the *jermal*, known as *astangkul* and *keroncong*, are about 10 meters by 20 meters in size. These are sunk into the water under the *jermal*. Every two hours they are lifted out, emptied and sunk. The haul is poured onto the floor to sort out “junk” catch such as jellyfish and poisonous sea snakes.¹⁰⁸

The work on *jermals* is labor intensive as described by former *jermal* workers to Verité researchers:

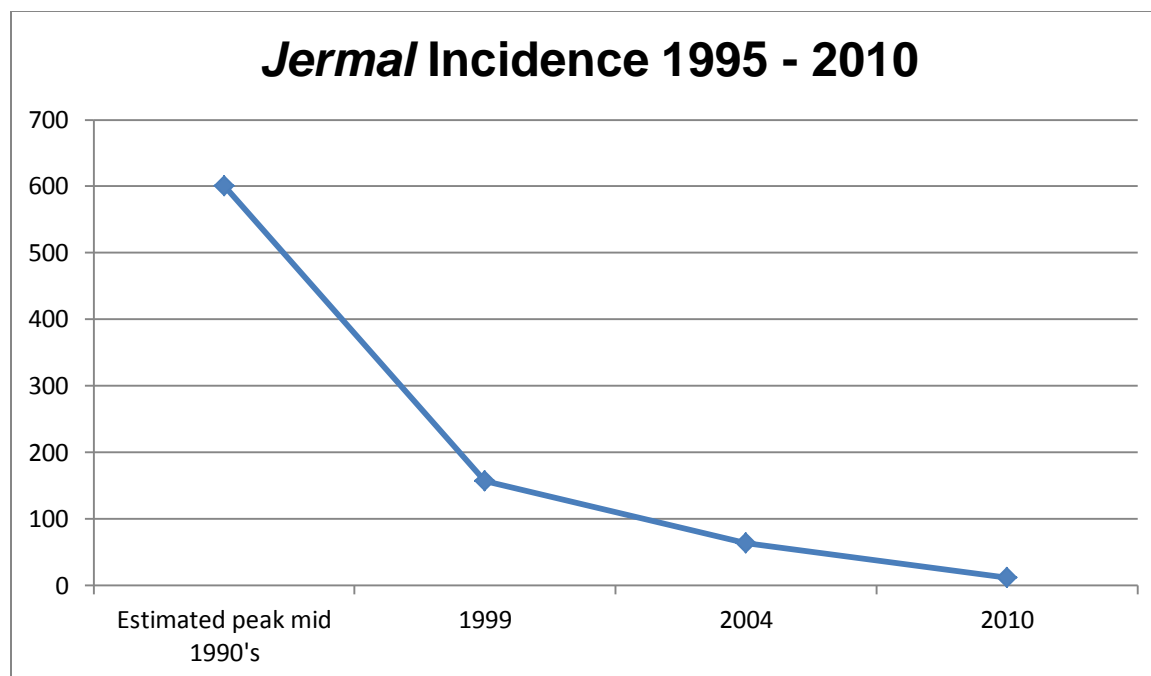
- Setting nets: nets are set in the front and back of the platform. Workers move the nets a bit to maximize catch as necessary but take them out only for repairs or replacement.
- Pulling nets out of the water (*Nggiling*): The nets are regularly hauled out of the water using a winch so that the fish caught in them can be taken out of the nets. The nets do not rise up to the level of the platform – instead they are suspended between the surface of the sea and the bottom of the platform. It takes one or two workers to turn the winch and raise the nets. This is done when the nets are full of fish, which can be as often as every 15 minutes to once every two to three hours, depending on the tide and the season. On average, workers interviewed reported that the nets are raised approximately 15 times per day.
- Taking fish out of the nets (*Nanggok*): The fish are taken out from the nets and put into plastic or bamboo baskets. Workers have to go down from the *jermal* to take the fish from the suspended nets. They make their way down via a rope, and then climb back up with full baskets.
- Sorting (*Mengayak di air*)
- Boiling the fish: The sorted fish then are boiled in the hut. A specific worker is usually in charge of this task. The fish must be boiled each time the nets are raised to avoid spoilage.
- Unfolding the plastic tarp: The workers unfold a heavy plastic tarp on the floor of the platform to dry the fish after they have been boiled.
- Spreading the fish: After the fish have been boiled and the tarp is laid out, workers spread the fish on the tarp, making sure the layer is as thin as possible to ensure that the anchovies and other bycatch will dry.
- Drying: While the fish dry under the sun, the workers must turn them over repeatedly by hand so they dry correctly and completely.
- Sorting the fish
- Packing the fish in a box or a closed basket
- Weighing the fish

Jermal workers catch, process, and prepare fish for shipment. The fish, mainly anchovies, are taken by the *jermal* owner to processors and traders at coastal locations. Traders usually process, dry and package the fish, and the product is sold primarily for domestic consumption, although some are exported regionally.



The harvest season is known as *pasang besar*, a period based on the monthly lunar cycle. There are two harvest seasons per lunar cycle (approximately two per month), when the tides are at their strongest. Work is intensified during this period because it is when the most anchovies are harvested, leaving very little time for rest. The increased harvest also means that processing work is intensified, as anchovies must be processed (boiled and dried) shortly after they are collected.

Jermals rose to prominence as a means of anchovy fishing in the 1970s and remained popular through the early 2000's. During the height of their prominence in the 1990s, research placed the number of active *jermals* between 395 and 800 with an estimated 8000 workers, approximately 75 percent of whom were children.¹⁰⁹ The industry is now in steep decline. Verité field research found that there were 12 remaining *jermals* in 2010, with a total of 62 workers. While this number is not static, it seems clear that the overall trend in the number of *jermal* workers slants sharply down.



According to key informants, nearly all extant *jermals* in North Sumatra were constructed in the 1970s and 1980s (during the peak of the industry). The wood in these structures is now old and rotting.

The declining incidence of *jermals* is attributed to several concomitant factors. First, the President approved the National Plan of Action on Elimination of the Worst Forms of Child Labor (NAP) in 2002, which is a three phase plan to be implemented over 20 years. The NAP was developed and implemented after heavy international attention to the problem of child labor on *jermals*.

Beyond governmental interventions, the large tsunami that devastated Indonesia in 2004 destroyed many of the *jermals* that existed at the time. Further, due to government crackdowns on illegal logging, the price of wood to rebuild these *jermals* was prohibitively expensive, according to *jermal* owners interviewed by Verité.

These *jermal* owners interviewed by Verité said that operating a *jermal* was no longer a worthwhile venture for them. There was too much scrutiny from the government to avoid child labor and they could not repair their broken or rotting *jermals*. Further, they felt that boats were overfishing in the region and “stealing” their anchovies. Several owners mentioned that their catch has been decreasing, and therefore their profit has been decreasing as well. It is difficult to attribute weight to each of these factors, particularly as the NAP was implemented and the tsunami occurred within a short timeframe. However, it is certain that, as one *jermal* owner told Verité interviewers, “*Jermals* are dying.”

There are three types of actors associated with *jermal* fishing. The first is the owner of the *jermal*. The owner is normally absent from the *jermal* but hires a foreman or

supervisor (sometimes referred to as *mandor*) to manage operations on the *jermal*. The workers are the third category. Verité field visits found an average of five workers per *jermal*.

All three categories of worker are male. Previously, workers were primarily children and juveniles, although currently, workers are primarily adult. (The reasons for this shift will be discussed later in this report.) Supervisors are adults, ranging in age from 40-58. More specific demographic findings will be discussed further in the Findings section.

Forced labor on *jermals* was documented by KKSP, (*Kelompok Kerja Sosial Perkotaan*, "Working Group on Social Problems"), an Indonesian humanitarian group, that conducted a five-year investigation of labor conditions on *jermals*, interviewing workers on more than 140 of the platforms. Their research, published in the late 1990s, found that more than 75 percent of over 8,000 employees in the industry were children, one-third of whom were under 14. The report put the number at "at least 5,400 children, and probably many more" on the *jermals*.¹¹⁰ Several other reports highlighted child labor on *jermals*, including "The Fisher Boys of Sumatra," *Independent* (London), November 28, 1998, and *Children in Hazardous Work in the Informal Sector in Indonesia, Child Workers in Indonesia*.^{111 112}

Based on the extent of child labor in *jermals*, provincial government agencies and NGOs in Sumatra initiated several interventions, including a Task Force on Child Labor, data collection on children working on *jermals* leading to their removal, vocational training, and denial of fishery business permits by any *jermal* owner caught employing child laborers. In 1999, the government ratified ILO Convention 105 (Abolition of Forced Labor) and began removing children from *jermals*.¹¹³ In 2000, the Local House of Representatives of North Sumatra accepted a cooperation agreement with the ILO that was later extended until July 2004 focused on this issue.

Measures of the National Action Plan (NAP) against child labor in Indonesia included awareness raising, education, and training of school dropouts; removal of child workers from offshore fisheries, drug distribution, and the footwear industry; a survey of child workers; and training of labor inspectors. According to information supplied by the government, 19,863 children were prevented from entering child labor and its worst forms and 10,922 were removed from such activities in 2006; 28,863 were prevented from entering child labor and its worst forms and 13,922 were removed from such activities in 2007.¹¹⁴ Under the NAP, national and local governments undertook an extensive monitoring process to identify and withdraw children working on *jermals*. The NAP also increased legal penalties for *jermal* owners found to be employing children, making the practice significantly less attractive to *jermal* owners, who, prior to the program, reportedly colluded with maritime officials to easily avoid any penalty.

The NAP is currently in its second phase, which is set to last from 2008 to 2012.¹¹⁵ This phase is intended to continue the efforts of the first phase, while introducing new measures such as increased education for children, a targeted effort to prevent 5,000

children from entering domestic labor, and the withdrawal of 2,000 children already engaged in such labor.¹¹⁶

In coordination with the National Action Plan and the government of Indonesia, ILO-IPEC implemented “Fishing and footwear sectors programme to combat hazardous child labor” to eliminate the worst forms of child labor in *jermals* through:

- Establishing a mechanism to withdraw children and prevent them from entering hazardous child labor;
- Strengthening the capacity of national and community level agencies and civil society to eliminate child labor ;
- Increasing livelihoods of parents, particularly women, to prevent children from entering child labor.¹¹⁷

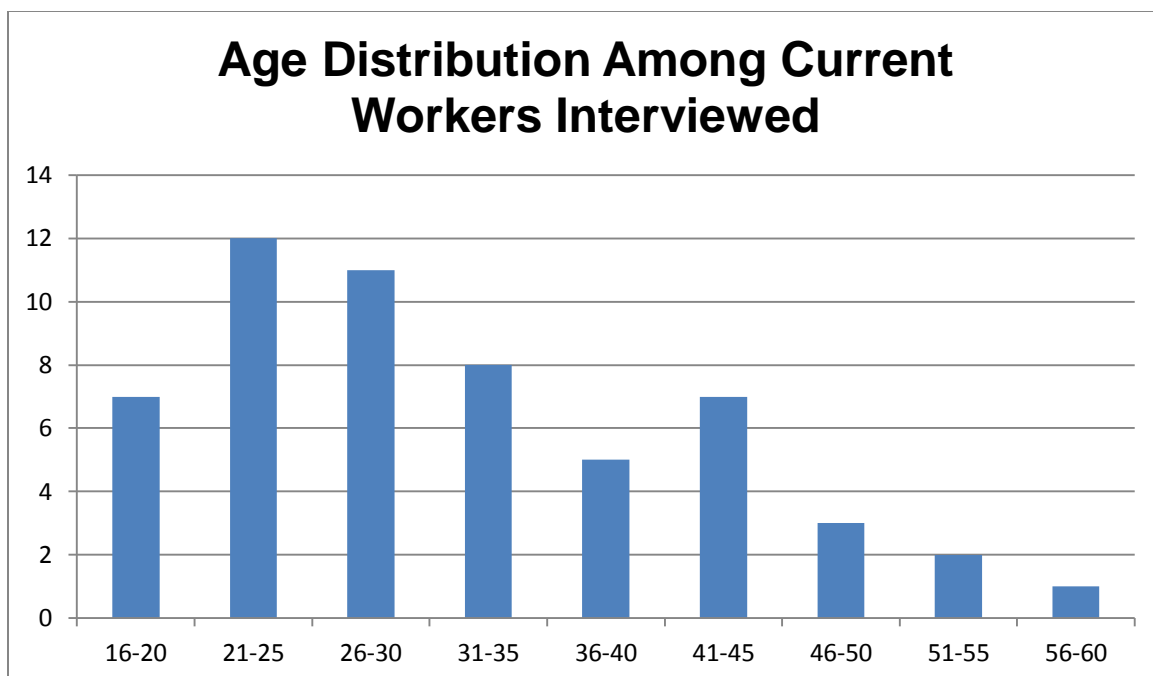
Research Findings

Demographic Characteristics of Respondents in Jermal Fishing

Researchers interviewed two groups of *jermal* workers: 56 current workers and 20 former *jermal* workers. Researchers also spoke to 15 *jermal* supervisors. Due to the small physical space of the *jermal*, supervisors were present for all interviews with current *jermal* workers, which severely limited the ability of these workers to be honest about the conditions of their work. Interviews with former *jermal* workers were conducted to fill in details about these conditions, as well as mechanisms of coercion.

Gender: All *jermal* workers and supervisors (and hence all interview subjects) are male.

Age: Current workers interviewed reported ages ranging from 16 to 59 years with an average age of approximately 32, although researchers suspected that several current workers were younger than 16. Among current workers, three workers were under 18: one 16 year old and two 17 year olds. No tasks were specific to the workers under 18.



Based on interviews with former *jermal* workers and observation of current conditions, child labor was far more predominant in the 1980s, 1990s and early 2000s. Former workers interviewed reported that they had worked on the *jermals* at ages ranging from seven - 29, with an average age of 14. The factors resulting in the change from a reliance on child labor to a heavy use of adult labor will be further discussed in this report.

Jermal supervisors interviewed reported an age range of 46-65 years, with an average of approximately 53.

Duration of Work: The average duration of work on a *jermal* differed between former and current *jermal* workers. Former *jermal* workers reported an average duration of *jermal* employment of under a year, at approximately 10 months. Current *jermal* workers reported an average employment duration of approximately 4 years. There were several outliers among current workers who reported periods up to 19 years working on *jermals*. The reason for the difference in duration of work between current and former workers is a matter of speculation to some degree, but experts interviewed felt that men who are currently working on *jermals* are there as an absolute last resort at making a living. Verité suspects that workers who report long-term periods of work on *jermals* are actually cycling between working on *jermals*, and periods away.¹¹⁸ That is to say, they have been working on and off for many years, returning when they need money, but have not spent that time continuously on the *jermal*.

Educational Attainment and Alternative Livelihood: *Jermal* workers have low educational status. With the exception of one worker who reported completing junior high, all former and current workers reported elementary levels of education. Supervisors also have a

low educational status, with all supervisors interviewed reporting only an elementary level education.

After working on a *jermal*, the former workers were eager to find alternate sources of livelihood, such as other types of fishing, farming, or working in small businesses. Interviews with former *jermal* workers suggest that those who stay on the *jermal* for longer periods, like the current adult workers, may lack access to alternate livelihoods, and therefore they are vulnerable to exploitation due to lack of economic options. One worker said, “Only people with problems came and stayed on the *jermal*. They may be criminals who escape from society, people with problems who are rejected by family...Children or mentally handicapped people who were persuaded to [take] some job to do.”

Origin: *Jermal* workers are originally from nearby provinces in North Sumatra. Villages of origin tend to be poor communities. The diverse ethnicities mirror the ethnicities found in this region. Ethnicities of *jermal* workers include Javanese, Bataknese, Malay, and Chinese.

Village of Origin	Number of Workers
Aek Nabara	1
Aek Loba Asahan	1
Air Batu	4
Ajamn	4
Belawan	1
Citra Makmur	1
Deli Serdang	2
Dolok Masihal	8
Kisaran	3
Lima Puluh	1
Medan	2
Padang Sidempuan	2
Sei Barobang	7
Sei Lang Buah	5
Sigalaga	1
Sigambal	1
Simalungun	1
Tanjung Balai	5
Tembang	3
Tinggi Rayes	1
Tinuaan Batubara	1

Jermal supervisors interviewed reported Javanese, Bataknese, Chinese and Banjar ethnicities. Villages of origin for supervisors interviewed include: Aek Nabara, Air Batu, Dolok Masihal, Kesaran, Medan, Sei Barombang, Sei Lang Buah, Selanggang, Tanjung Balai and Tinggi Raja.

Village of Origin	Number of Supervisors
Aek Nabara	1
Air Batu	1
Dolok Masihal	3
Kesaran	1
Medan	1
Sei Barombang	4
Sei Lang Buah	1
Selanggang	1
Tanjung Balai	1
Tinggi Raja	1

Mental Disability/Inability to Communicate: Verité research identified 10 workers who could not communicate verbally with researchers. It was the opinion of researchers that these workers had some type of mental disability. Because researchers were not able to communicate with these workers, it is difficult to provide further information. However, researchers were able to locate the family of a former *jermal* worker who was identified by his family as having a mental disability. A case study of that particular worker is presented in this report. Researchers were only able to identify definitively isolated incidences of this phenomenon, but individuals with disabilities may be particularly vulnerable to forced labor on *jermals* due to a potential inability to give informed consent. Further, these individuals are likely to have severely limited livelihood options, leaving *jermal* work as a last resort for these individuals and their families.

Presence of Indicators of Forced Labor in Jermal Fishing

While child labor on *jermals* has been virtually eradicated, Verité researchers note that the conditions for workers who remain are still problematic, and inherent in the physical structure of the *jermals*, as well as the intensive labor required.

Forced, Excessive Overtime; Forced to Work On-Call: Working conditions on *jermals* are harsh. Most days, workers work “day and night,” with breaks of only a few hours to sleep and rest. According to current and former workers interviewed as well as previous research, nets have to be lifted every four hours, increasing to every 2-3 hours during peak tidal periods. After lifting the nets, workers must immediately process fish due to the time sensitive nature of the resource. Workers reported that they worked 18-24 hours during *pasang besar*.

Limited Freedom of Movement and Communication; Constant Supervision; Isolation: The same conditions that made interviewing current workers difficult mean that there is little to no privacy for workers. They all live and sleep in the same small shack on the platform only returning to the shore at the end of their three month ‘term.’ (Duration of stay is discussed in the following section). This lack of privacy, in combination with the long work hours, means that workers are constantly under scrutiny of the supervisors and never away from their gaze.

The physical isolation of *jermals* contributes to workers vulnerabilities to forced labor. *Jermals* are too far from coast to swim, and all former workers interviewed reported that they were expected to stay for three-month terms. This three-month period gave them no days off, and they remain on the *jermal* for the entire period. This physical location leads to an extremely isolated environment, where workers are cut off from nearly all communication and unable to leave the worksite until the end of their three-month term.

Degrading Living Conditions: Workers live and work on the *jermal* platform. The platform is only roughly 10 by 15 meters in size. About two-thirds of the *jermal* is an open-air platform area. The other third has a hut-like structure which is used to process fish (through boiling, drying and sorting), store processed fish, and provide shelter for workers for living and sleeping. Fresh water is in scant supply. Food quality is quite poor. Workers report having little, poor quality sleep and spending the bulk of their three-month stint on the *jermal* hungry, thirsty and malnourished.

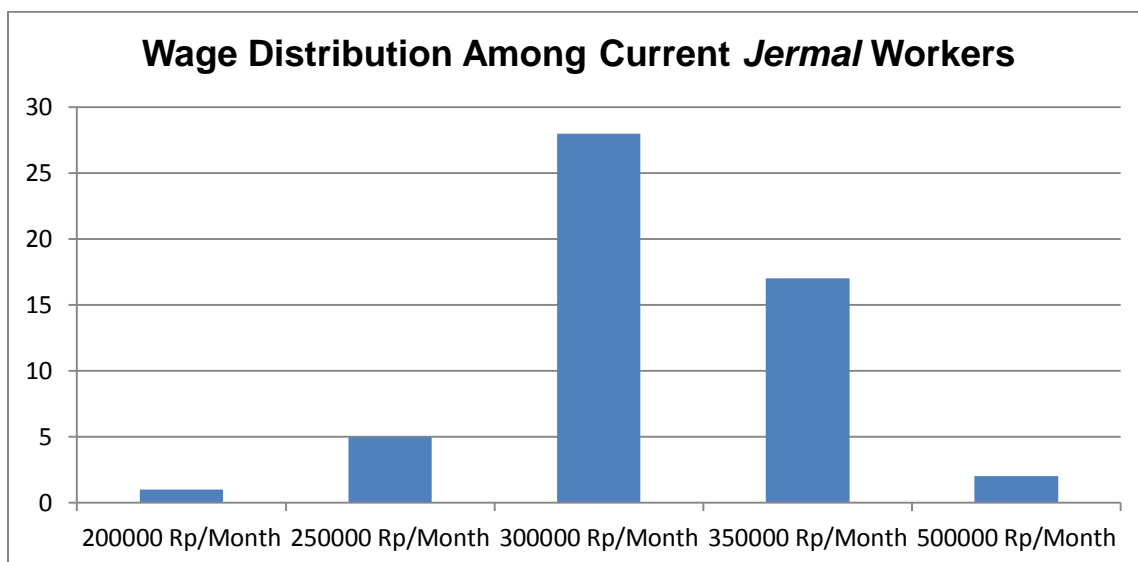
Physical and Verbal Abuse and Harassment: Abuse and harassment are used as a means to coerce workers already physically confined on the *jermals* to work harder. One-hundred percent of former *jermal* workers reported extensive verbal harassment from the supervisor. These workers reported both that they had experienced verbal abuse first-hand, as well as witnessed the abuse of other children. Former *jermal* workers reported that verbal abuse was routinely used to motivate workers to work harder, as well as to punish them for mistakes.

Several former *jermal* workers also reported physical abuse. As with accounts of verbal abuse, this was both experienced first-hand as well as witnessed. Also, as with accounts of verbal abuse, physical abuse was described as both a means to coerce workers to work harder and to punish them for mistakes.

Researchers observed current workers to be predominantly closed, wary and intimidated in the presence of the supervisors, and thus it seems likely that conditions of harassment are ongoing.

Withholding of Wages: Workers may also be bound to the *jermals* through a coercive payment system. All former *jermal* workers interviewed reported that workers only receive payment after the full three months, as supervisors are “afraid of workers trying to run away.” Any worker who does manage to leave before the end of the three months is not paid at all. If workers were paid in cash while still on the *jermal*, they could try to flag down a nearby fishing boat and pay for escape. Further, several former workers reported a system in which full pay is not given unless the worker returns for a new three-month term or finds a replacement for himself. Current *jermal* workers still operate on the three-month term system, and workers are not paid until the end of their term.

Wages: Salaries varied by worker, but current workers received a range of 200,000 IDR (22.27 USD) to 500,000 IDR (55.68 USD) per month. The workers who made 500,000 IDR per month were assigned to boil the anchovies, which is considered a more skilled position.



Jermal supervisors received higher wages, with a reported average of 900,000 IDR (100.22 USD) per month.

Other Issues of Concern Regarding Working Conditions in *Jermal* Fishing

Deceptive Recruitment: The recruitment process for *jermal* workers also increases vulnerability to forced labor. Former *jermal* workers described a system in which, in order to leave the *jermal* and receive payment, they were required to find and recruit their own replacement. Sixteen of the former *jermal* workers interviewed reported being recruited through this system. The remaining four former *jermal* workers that were interviewed reported being recruited directly by the supervisor.

Forty-five percent (9) of the former *jermal* workers interviewed reported specifically that they did not receive accurate information about wages and payment mechanisms when they were recruited. All former workers reported that they were surprised by at least one aspect of the work, most often the harsh conditions and lack of rest.

Hazardous Work: Safety is a serious concern. *Jermals* in general are relatively fragile structures, and the remaining *jermals* are upwards of 15 years old. Workers reported fear that the *jermal* would collapse, as well as fear of waves and sharks. In interviews, a former *jermal* worker reported his first week on the *jermal* as particularly horrific; a strong storm hit the *jermal*, and the platform swayed and rocked violently with every gust of wind. Heavy rain made the platform slippery, and he feared he would fall into the open ocean. Although they were not able to talk openly with researchers, 10 current *jermal* workers made reference to the fact that they felt unsafe due to the physical location and condition of the platforms.

In addition to physical danger concerns, workers suffer health problems stemming from the damp, unhygienic conditions. Nearly all current workers reported suffering from

colds and respiratory illnesses. Injuries were reported as well. Nutrition is also limited as workers are not allowed to eat any of the catch, but are instead provided with deliveries of dried fish and rice from the supervisor. Fruit and vegetables are virtually non-existent.

Case Study – Tirto: No Alternative Livelihood

Tirto was the third child of five siblings from a poor family in North Sumatra. At age 12, he had to leave school because his father could no longer pay his school fees. He initially worked at a poultry breeder, but even working 8 a.m. to 5 p.m. every day, his salary was so low that he didn't feel like it was worth it – his family couldn't afford regular meals, even with his additional salary. He quit this job because of the low salary, but felt guilty that he wasn't helping to support his family. He needed to lessen the burden on his parents somehow, thinking "it would be great if I could make enough money to give some to my parents...but if I'm at least supporting myself, my parents won't have to, and they'll be better off."

Around this time, Tirto's childhood friend, Satri, had just returned to their village from working on a *jermal*. Satri told Tirto that the *jermal* he worked on needed workers, and that Satri could get him a job there. Satri said that *jermal* work was good, because food and shelter are provided, so all the money workers make is profit. Therefore, he could send money to his parents. Tirto said this was exactly what he was looking for, so he sought permission from his parents and followed Satri back to the *jermal*.

Upon arriving, Tirto found the *jermal* was not as he expected. His first night, there was a strong storm with blowing wind and heavy rain. He hadn't realized how far from shore the *jermal* would be, or how it would sway with each wave. He didn't realize fresh drinking water wouldn't be available or how hungry he would be. He was seasick all the time. He also didn't realize the nature of the work.

Tirto and the other workers on the *jermal* were required to work 19 hours per day, pulling the nets up from the sea, then gathering, sorting, and drying the fish in a cycle that repeated every few hours.

The days were so busy, and Tirto was so tired that he often made mistakes. For example, on one of his first days on the *jermal*, the workers had just pulled up a large batch of anchovies. They spread them on a plastic tarp on the deck to let them to dry in the sun, and then went to take a quick rest. Tirto was exhausted; he still felt sea-sick all the time and was barely sleeping at all, and he finally managed to fall into a sleep. The weather turned quickly from sunny to cloudy, and the anchovies needed to be picked up from the deck so they wouldn't get wet. Unfortunately, Tirto and several other workers were sleeping when the rain began falling and by the time they woke up, the anchovies were wet. The supervisor was angry and screaming at the workers. He told them they were stupid and needed to work faster. Tirto was afraid he would be hit, like the other children he saw being beaten.

Tirto described himself as being "depressed" during this time – he didn't see a way out. He was embarrassed at how much he missed his family and how much he cried. He

wanted to go home, but there was no way to get home: there was no boat and the shore was much too far to swim, especially when you thought about the sharks. Besides, even if Tirto could find a way off, maybe by flagging down a boat while the supervisor slept, he wouldn't make any money at all. Another boy on the *jermal* wanted to leave because he'd received word that his father was very ill. The supervisor allowed him to leave with a passing boat, but he received no money for two months of work, as it was less than the customary three-month term.

So Tirto stayed and fell into the pattern of the daily work. Days started at 4 a.m. and work continued throughout the day, with breaks only from 2-4 a.m. and 4-5 p.m., meaning that he regularly worked 18-20 hours per day.

When his three months was finally completed, he was happy to return home and thrilled to see his family. He was paid the salary he was owed for three months, and his family was happy to receive the money. But then, after several weeks at home again, Tirto started to feel restless. He was bored, and the money he'd brought home had already been spent. He again felt like a burden. He asked around in his village but couldn't find other work. Although he was horrified by the thought of going back, there didn't seem to be any other option. He returned to the *jermal*, and worked on and off on *jermals* for one and a half years.

Case Study – *Jermal* Workers with Mental Disabilities: The Story of Jaka

Verité research found evidence that people with mental handicaps may be particularly vulnerable to trafficking, as well as more vulnerable to exploitive working conditions than other *jermal* workers.

While researchers were not able to have in-depth conversations with handicapped workers due to both the presence of the supervisors, as well as each individual's mental challenges, researchers were able to seek the family of one mentally handicapped *jermal* worker to more fully understand the mechanisms of how handicapped workers end up on *jermals*.

The family of Jaka, an adult mentally handicapped worker, reported that *Jaka* had gone missing from their village and they had been unsuccessful in finding him. When his sister, Ani, went to the playground where Jaka liked to spend time, people living nearby said that someone had been around recruiting for *jermals* in Sialang Buah and that Jaka had gone with them. Jaka's family went to each *jermal* in Sialang Buah one by one, but when they found Jaka, he did not want to leave the *jermal*, and explained he was happy to have work and an income. When Jaka returned home after six months, he had virtually no earnings.

After returning to the *jermal*, Jaka witnessed the *jermal's* deputy supervisor kill the supervisor of his *jermal* with an ax after being disciplined. The deputy supervisor then escaped from the *jermal* and was followed by the other frightened workers. Jaka was left behind. He was not found until several days later when the *jermal* owner came to check in on the *jermal* and found Jaka alone with the supervisor's corpse.

Small-Boat Anchovy Fishing in North Sumatra Province

Introduction and Current Understanding



Figure 6 - Verité photo, Small boat

Fishing boat work is labor intensive and carries high physical risks for workers. The ILO has identified fishing as one of the most hazardous types of work.¹¹⁹ Fishing work in North Sumatra is no exception. Potential hazards include:¹²⁰

- Bad weather: Sudden gales, major storms, and heavy fog are significant causes of small boat accidents often resulting in capsizing, grounding, becoming lost, and collisions. Where weather warning systems and reliable radio communications with fishers at sea are poor or non-existent, casualties due to bad weather are more frequent.
- Loss of power: This is a major cause of accidents. Many small fishing boats are powered by an outboard motor and do not carry either a spare engine or a sailing rig.
- Fire on board: This is less common on board small fishing craft, as most of them are open boats or rafts where fire detection is usually instantaneous. However, fire on boats with outboard engines that carry large amounts of fuel is extremely dangerous.
- Inadequate boat construction standards: Many small-scale fishing boats are not designed and constructed to sufficient safety standards. Frequently, the boats' design and construction are unsuitable for the conditions they are used in.

- Unsuitable boats: Starting in the latter decades of the twentieth century, small fishing crafts have been sailing farther offshore on prolonged fishing trips. Many of these craft, built for inshore fishing and day trips and often lacking basic safety equipment, are too small and otherwise unsuitable for offshore operations. Consequently, their crews' safety has steadily deteriorated.
- Fisheries management: Certain management strategies may motivate fishers to increase their earnings by taking risks that they would not take otherwise. Such strategies involve, for example, limiting fishing time and area, and transferring and leasing catch quotas.
- Economic hardship: Economic hardship, or even transitory financial difficulty, often causes fishers to take extra risk, when their better judgment might suggest otherwise.
- Fishing operations: Trawling vessels of any size may capsize when their gear snags on a fastener because of obstacles on the sea bottom, while small seiners may capsize under the downward pressure of a large catch of fish "sinking" during the last stage of net hauling. People can be swept overboard if caught up in nets or because of ropes running out while they are setting the gear. Various injuries may occur during fishing both from contact with fishing gear and deck mechanisms, and from bites, stings, and tail kicks by fish and other marine creatures. Wading and diving fishers are particularly at danger from large predators and various poisonous creatures.

There are two primary types of anchovy boats found in North Sumatra. Large boats weigh more than 20 tons and have more on-board equipment. They are able to go on fishing trips of up to ten days. These boats are equipped with stoves and drums for cooking the newly caught anchovies, which is necessary to preserve quality. Larger fish that are picked up as by-product are normally frozen. Anchovy boats also have wide, flat roofs for drying anchovies.¹²¹ Most boats have storage space and an engine room. Personal space (including toilet facilities) is rarely available for workers, who sleep on the floor or in hammocks.¹²² Smaller boats lack room for storage and navigation systems – these boats only go out for one day at a time, so workers do not sleep on the boats.

Small boats sell their catch daily to workshops or other processing facilities. Small boats dock in the afternoon or evening to unload their fish, where it is transported to the workshop. The workshops sort, clean, and dry the anchovies. Some process it further into paste, while others sell it to wholesale traders that are common in the port towns of Tanjung Balai and Belawan. These wholesaling operations are not owned by fishers themselves, but by other entrepreneurs and businessmen. Much of the dried anchovies, known locally as '*ikan teri*' is consumed domestically as it is an Indonesian staple food.¹²³ Some is traded locally in the port towns themselves, while some is sold to retailers in Jakarta for distribution throughout the country. Key informants also noted that some may be regionally exported to Singapore and Malaysia.

Large boats, which go out on longer expeditions, generally have space to dry the anchovies on the deck or roof of the boat. Fishers on large boats usually work about 20

days per month. (For workers on large boats, this means roughly two trips of ten days each out at sea.) Fishing takes place throughout the year. Fishing activities within each month follow local wisdom, guided by the lunar calendar and the tides. Fishing seasons are referred to in the vernacular as the “good” season –called *pasang besar*; and the “bad” season, called *pasang mati*. During *pasang besar*, the fish are plentiful, and by extension, the harvest is generally successful. While fishers on small boats pay attention to the lunar calendar, they are also generally guided by the weather and determine on a daily basis whether or not to go out, so the number of fishing days per month can be variable.

Bad weather can hamper the ability to earn a living. According to a January 2012 news article, recent bad weather has increased the cycle of indebtedness among fishers. “When the high tide season like nowadays, we owe to the loan shark who used to buy our catch to survive,” said a fisherman in Wedung District. He said he would repay the debt after the bad weather passed. “Every fishing season, we sell the catch to the loan shark who has given the debt even though the price is often regulated by them.”¹²⁴

Tasks on fishing boats include:

- drying fish;
- lifting the nets;
- guiding the boat/navigating;
- maintaining back lamps;
- managing the freezer box; and
- sorting fish.

Workers will be assigned to the above tasks based on strength, experience, and capability. Depending on the size of the anchovy boat, crews can include at least ten people. The boat crew is organized into a clear hierarchy. Most often, there is an admiral or captain (*tekong*). Depending on the size of the boat, there may also be a machinery worker (*kuanca*), manager (*kepala kerja*), and cook (*tukang rebus*). Verité’s research found evidence of children working on anchovy boats. The tasks children participate in vary, and like adults, assignments are based on strength, capability and experience.

The position with the most power and status is that of admiral, which exists on both large and small boats. He oversees the whole fishing trip, and decides, in conjunction with the boat owner, the duration of the expedition. Beneath the admiral is the manager who helps manage and supervise all workers’ jobs according to their assignments. The manager, the admiral, and the boat owner have power in recruiting workers for each upcoming expedition. Therefore, it is in the workers’ best interest to maintain a good relationship with their superiors in order to increase the likelihood of being recruited again for future work.

While at sea, the admiral is a proxy for the boat owner, and thus has total authority over the other workers. In effect, the admiral runs the business. At the beginning of every trip, the boat owner will provide money to the admiral to fund the trip. This amount

varies, but through key informant interviews, researchers determined that for mid range to longer trips, the amount is about five million IDR (556.79 USD). The admiral uses this money to purchase necessities such as gasoline, oil, salt, ice block, and other provisions, as well as make loans to workers and their families. The admiral will get a bonus ranging from eight to 12 percent of total profit from the boat owner depending on the catch.

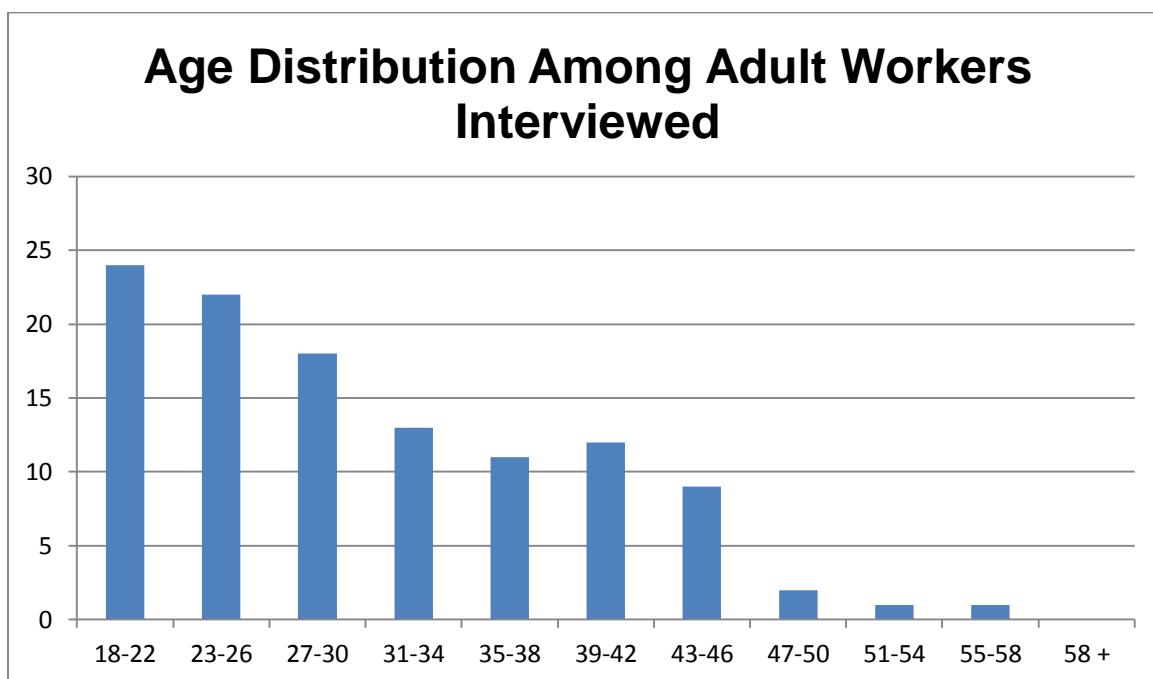
Under this system, the admiral is effectively the only meaningful employer or boss of the workers. Because workers perceive that there are more potential workers eager to take their jobs, maintaining a good relationship with the admiral is highly important. Further, because the admiral has cash from the boat owner to fund the trip, he often becomes a source of loans to workers between trips. The nature of this debt will be further discussed in the findings section below.

Working conditions on small fishing boats have been poorly documented. In 2004, the International Program on the Elimination of Child Labor published *Child Labor in Offshore Fishing, North Sumatra: A Rapid Assessment*, detailing labor abuses on fishing boats in Indonesia. The report found that children and adults surveyed worked between ten and 12 hours per day, but up to 19 hours without sleeping or resting, and without safety gear or proper tools. Most respondents received no vegetables, fruit, or milk while at sea.¹²⁵ The ILO also found that children involved in the fishing sector often sought jobs through informal networks such as friends or family members. Additional research by Markkannen made similar observations on working conditions in 2005, noting long working hours, child labor, lack of protective gear, and hazardous work among North Sumatran fishers. There has been limited previous reporting on the role of debt in fishing communities.¹²⁶

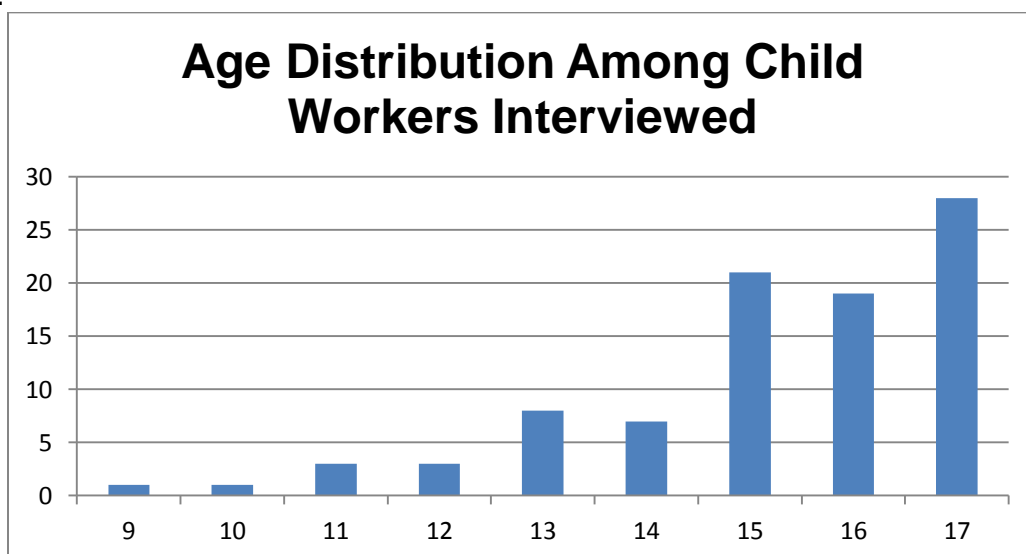
Research Findings

Demographic Characteristics of Respondents in Small-Boat Anchovy Fishing

Age: Both children and adults are involved in anchovy boat fishing in North Sumatra, and both were interviewed for the study. One hundred and fifteen adult workers were interviewed. These adult workers ranged in age from 18 to 59, with an average age of 32.



One hundred and twelve child workers were interviewed, ranging from nine to 17 years of age, with an average age of 15.5.¹²⁷ The average age of entry into work for all child workers was approximately 14. The issue of child labor is discussed in more depth below.



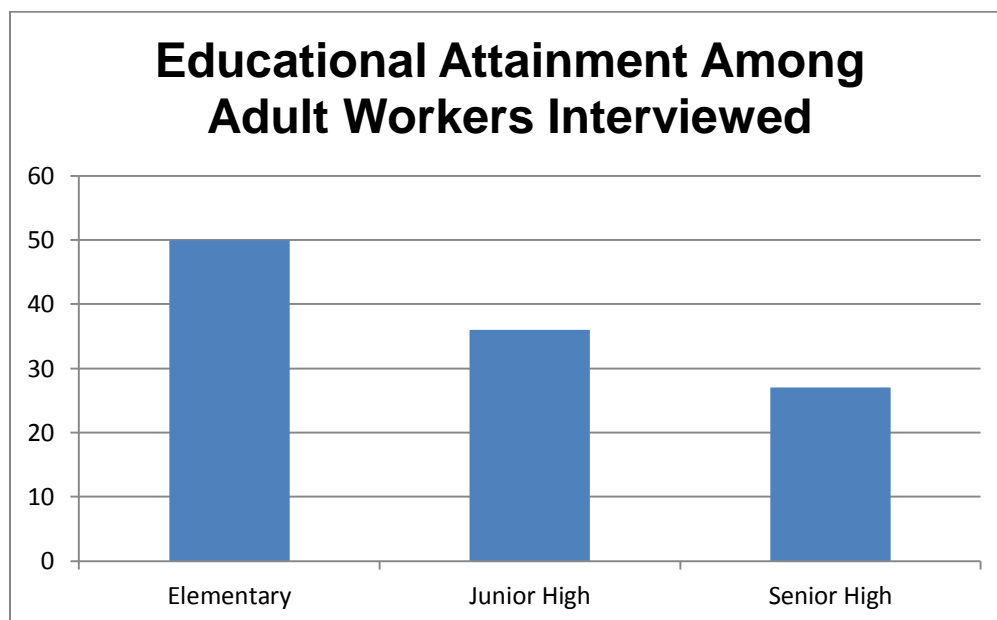
Gender: All boat workers interviewed were male. Women and female children were found working in the fish processing industry, specifically in the anchovy drying workshops that are common in North Sumatra (see Appendix I).

Place of Origin: Most workers come from the port provinces. Those who did not reported that they came to this area hoping to secure work in the fishing sector, and sought out admirals upon their arrival. They did not report being recruited by a labor broker.

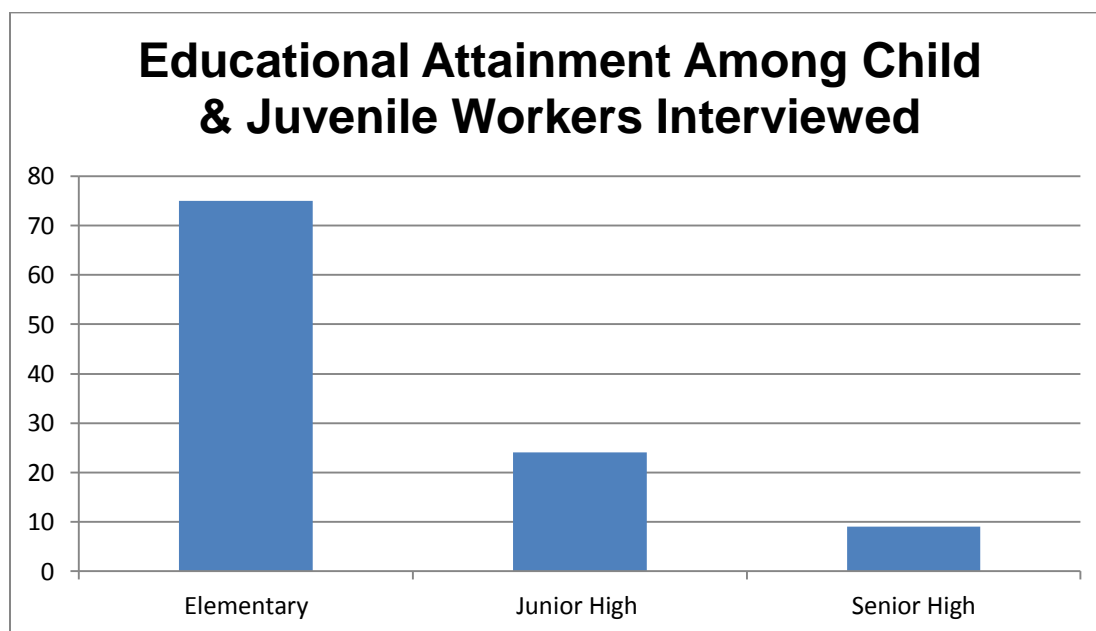
Entry into Sector and Alternative Livelihood Strategy: Many (25) adult workers had no previous experience besides fishing. Of workers who did have previous experience, jobs tended to be informal and insecure such as construction worker, driver, plantation worker, or subsistence farmer. The workers who had these jobs turned to fishing because there is a low barrier for entry. As one respondent said, “It’s easy to be a fisherman. It doesn’t require any certificate or graduation.” Most fishers interviewed said that they had no other opportunity to make a living.

Due to lack of other viable livelihood options, workers tend to stay in the fishing sector for relatively long lengths of time – 51 percent of adult survey respondents over 18 had been involved in fishing for over six years.

Educational Attainment: Education levels among respondents were low. Of adult workers interviewed, 50 had an elementary school education, 36 had some junior high school, and 27 had some senior high school.



Among child workers interviewed who responded to the question, 75 had an elementary education, 24 had some junior high, and nine had some senior high school.



Presence of Indicators of Forced Labor in Small-Boat Anchovy Fishing

Limited Freedom of Movement, Isolation, and Surveillance: Limited freedom of movement is inherent in boat work. Although workers did report that the boat would turn back to shore if a worker were to become gravely ill or injured, for the most part, workers are ‘stuck’ on the boat for the entirety of the trip. There is little differentiation on the boats between work and living space and there is almost no possibility of privacy. This lack of privacy means that all workers, including children, are under constant supervision and surveillance from the boat admiral.

Wages: The wage system is closely linked to the social hierarchy of the workers and is structured differently for those with more status. Admirals interviewed reported that they receive between eight to 12 percent of the net profit from a trip (after expenses have been repaid to the boat owner). The exact percentage of the admiral’s pay is structured to motivate the admiral to seek a larger catch. For example, according to one admiral interviewed, he receives an eight percent bonus for “smaller” catches – i.e., when the boat owner’s total profit works out to be less than 30 million IDR (3,328 USD). The admiral earns a ten percent bonus if the boat owner’s profits are 30 to 40 million IDR (3,328 – 4,438 USD), and a 12-percent bonus if the total profit exceeds 40 million IDR (4,438 USD). Thus, the larger the catch, the larger the bonus. The admiral is paid after the boat owner sells the catch, which normally takes about three to four days upon returning from the fishing trip.

It should be noted that North Sumatra does have a minimum wage standard of approximately 905.000 a month (approximately USD 90). Fishing is not generally excluded from minimum wage standards, but they are not commonly enforced.

Regulations apply to boats over 5 tons. Our survey sample contained boats both over and under 5 tons.

‘Regular’ workers are paid per day, rather than in a “bonus” system, like the admiral. Nearly all workers interviewed reported that they are paid 30,000 – 35,000 IDR (3.33 – 3.88 USD) per day of fishing. Highly ranking technical workers such as the team manager, machinery worker, chef, and lamp keeper may also receive bonuses at the end of the trip. According to informants, the standard bonus for a team manager is 300,000 to 500,000 IDR (33.29 – 55.47 USD) per trip in addition to his daily payment. The chef, the lamp keeper, the guide, and the drying keeper each receive a 50,000 IDR (5.55 USD) bonus per profitable trip. The salary structure was widely consistent among workers interviewed, even among those who worked for different admirals and boat owners. Several workers said that this structure is widely used so that workers avoid “jealousy” between workers on the same boat, as well to make wage structures somewhat predictable throughout the community.

Large boat workers are paid at the end of every trip (assuming it was profitable) based on a daily wage, while small boat workers are paid at the end of the month.

Many workers interviewed reported that if a trip is unsuccessful, and the catch is not enough to pay for the gasoline, etc., workers will not be paid. This means that there are occasionally some trips for which they are not paid at all, and that they are sharing the risk of the trip, while not necessarily sharing in the profits to the degree that an admiral does.

Several workers reported occasions on which money had been deducted from their wages because some of the catch had gone missing. Because the admiral was not able to identify the specific guilty parties, he spread the cost of the fish across all workers and deducted it from their earnings.

Because pay is withheld until the end of the trip (or, in the case of small boats, until the end of the month), workers expressed the pressing need to maintain a positive relationship with the admiral. The admiral is effectively the only meaningful boss to the workers. In spite of a daily wage, the workers must continue to perform efficiently for the sake of ensuring future employment. In addition, the nature of a worker’s relationship with his admiral is crucial for securing monetary loans, as the admiral can use money from the boat owner to provide loans for workers. Most loans normally range from 50,000 to 200,000 IDR (5.55 to 22.19 USD), and they most often are used to purchase necessities (such as food) for families before the fishers leave for an expedition.

The Cooperative Alternative

For many workers in coastal North Sumatra, there are few livelihood alternatives to the fishing industry. But some fishers have found ways to make the market work better for them. During the course of research into boat fishing, researchers became acquainted with members of “*Perserikatan Nelayan Sumatera Utara*” an independent, cooperative fishers’s association near the port of Tanjung Balai. Members of the cooperative have their own small boats and work for a few hours in the morning and afternoon, when the fishing is best. Boats have simple nets and equipment, so their catch is not high, usually only one to two kilograms of shrimp, squid, or other small fish. Members built a simple hut that serves as a business center, where each day’s catch is collected and weighed by two elected officers. Fishers’s catches are weighed on the spot and the cooperative then pools the catch and sells it to a larger middleman who can give a better price than fishers could get if they tried to sell their catch individually. Fishers are then paid based on the weight of their catch. According to interviews with several members and co-op leaders, workers earn approximately 75,000 – 100,000 IDR (8.32 to 11.10 USD) per day of fishing, which is higher than boat workers. They also have more autonomy in decision making. If the weather is bad, for example, they can choose not to go out without worrying that they will hurt their relationship with the admiral. Workers also expressed a higher level of agency: Their earnings each day are based on a combination of their own hard work, luck and the market; but they are not dependent on the admiral or boat owners. Their catch is weighed in front of them, and co-op members expressed a high level of trust in the process. The barrier of course, is that each member must be able to afford his own boat. Even though boats are small and simple, it can take years to save up for one.

Working Hours: Adult workers all reported working approximately 18 hours per day. While they are not actively working the whole time, they must be awake and available to work. Work begins at 6:00 a.m. Workers lift up nets, unload and sort fish, and drop nets back down. The cycle is repeated until midnight, when workers go to sleep for the remaining six hours of the day. Trips on larger anchovy boats are about ten days long. After a few days break, they are likely to go out again. Most fishers go out for two 10-day trips per month.

On smaller boats that can only go out for one day at a time, boats often leave in the afternoon, and then fish all night long.

Debt: Over half of adult workers reported that they have debt. Nearly all who do take loans reported that they took them from the admiral. Most workers interviewed reported that they had other options (such as borrowing from a small store), but that taking loans from those sources would require that they pay back the loan with interest. When workers borrow from the admiral, it is considered an “advance payment” against their next trip. That is, the full cost of the loan is taken out of their earnings from the next fishing trip and the advance payment does not necessarily result in exorbitant (or any) interest paid by the worker. Therefore, most workers are easily able to pay off their debt from trip to trip, particularly because the average loan amount is smaller than average total wages. All workers with debt reported that they took loans to supplement their

income for items such as food and other basic needs. These “advance payments” do not result in exorbitant – or any – interest for the workers, and as such, accepting such payments does not necessarily render workers indebted long-term to their employers.

Other Issues of Concern Regarding Working Conditions in Small-Boat Anchovy Fishing

Child Labor: One hundred and twelve child workers were interviewed, with ages ranging from nine to 17, with an average age of 15.5. The average age of entry into work for all child workers was approximately 14. Most children (76) reported that they had been encouraged to enter the fishing sector by their parents. Nearly all children interviewed have parents or family members involved in the fishing sector.

Children were involved in a variety of tasks. Assignments are made based on experience, capability and physical strength. Only boys work on boats, while girls work in workshops. Tasks reported by children included general boat crew (variety of tasks on board), workshop, sorting fish, mechanic, and handling nets. Of the children ages nine-17 interviewed, approximately 71 worked on the boat crews. The rest worked in workshops or in other auxiliary tasks.

The following chart explains the breakdown of assignments of children interviewed who provided specific information about the tasks in which they are involved:

Age	Activity	Count
9	Boat crew	1
10	Workshop	1
11	Boat crew	2
	Dock worker	1
12	Boat crew	2
	Dock worker	1
13	Boat crew	2
	Dock worker	6
14	Boat crew	3
	Dock worker	4
15	Boat crew	13
	Dock worker	7
	Workshop	1
16	Boat crew	10
	Dock worker	4
	Workshop	2
17	Boat crew	38
	Dock worker	6
	Workshop	4

Boat fishing is hazardous work, and children working in the sector can be considered to be engaged in a worst form of child labor.¹²⁸ Children interviewed reported that they had fears about waves and storms and were afraid of large sea creatures such as sharks.

While workshop labor may present fewer physical hazards, anecdotal evidence (provided in Appendix 1) suggests that child workers in workshops may work excessively long hours, including hours overnight, which is considered hazardous and therefore a worst form of child labor.

Limited freedom of movement is inherent in boat work. All workers, including children, are under constant supervision from the admiral. Child workers, in particular, described being yelled at by the admiral as an inducement to work harder or to reprimand them for mistakes.

Approximately 25 child workers said that they take loans from the admiral. Children with debt also reported a system in which they take loans as “advance payment” and their debt is deducted from their earnings from the next trip.

Case Study – Wayan: Child Worker on an Anchovy Fishing Boat

Wayan is 16 years old and works on a 25-ton fishing boat. He has been doing this for almost a year. Wayan left school to work on fishing boats when he first turned 16. Wayan’s father encouraged him to work because he was afraid Wayan was hanging out with a “bad crowd” and would become a delinquent. His hope was that by working hard, his son would turn into a responsible adult.

Wayan does not know the boat owner; he was recruited by the admiral. Like the other workers, he has no formal contract with the boat owner; instead, his employment is based on the common understanding of the terms of fishing work in the area.

Wayan’s job requires a large amount of physical strength and endurance. His boat sails for nine or ten days at a time. He wakes up every morning at 6:00 a.m. and begins casting heavy nets. At around 9:00 a.m., already up for three hours, workers begin lifting the heavy nets out of the ocean. It takes about an hour to lift and empty all the nets, and by 10:00 a.m., they are ready to cast them again. While they wait to lift the second round of nets, they sort the fish from the first round, determining which anchovies should be boiled, which should be salted, and which fish caught in the net should be frozen. They process the fish as they go.

All of those activities are repeated again and again until midnight. Around this time, they will stop working for the day and take a rest. They will wake again early the next morning to be ready for work by 6:00 a.m. Overall, Wayan and all the crew members, regardless of their ages, have to work for 18 hours per day.

Even though Wayan is underage, he is treated just like the adult crew members and keeps their hours. Like the other workers, Wayan is paid 33,000 IDR (3.66 USD) per day of the trip. Even if they work especially hard (such as during the harvest season of

March through September) and earn a large catch, his pay is the same. Meanwhile, the admiral and the supervisor are paid a bonus if they make a big catch. Wayan says the supervisor often screams to get the crew to work harder.

Wayan feels this payment system is unfair, but also feels that there would be no benefit from complaining. There are plenty of other people who want to work in the fishing sector, so if Wayan or his crewmates complain, they could be easily replaced. Wayan's primary concern is to prove to his admiral that he is a good worker so he will continue to get asked to go on trips.

During his first days at sea, Wayan got sea sick because of the strong waves in a storm. Even after almost a year working on boats, he is still frightened of storms; he once saw a fellow crew member get swept overboard.

Hazardous Work: Health and safety concerns are inherent in boat fishing. The sea itself is unpredictable, and the integrity of the sea craft varies. Many of the workers interviewed, including adults and children, reported that they had fears about waves and storms. Workers who are injured must pay for their own medical treatment. In some cases, boat owners help with these costs.

Case Study – Dennys: Adult Anchovy Boat Worker Sustains Serious Injury

Dennys is 45 years old. He works as a technician on a large 28-ton anchovy boat with 30 crew members.

Dennys has been working in fishing for 20 years. He has been on his current boat for the past four years. As a technician, Dennys's salary is slightly higher than regular crew members: Most crew members are paid 35,000 IDR (3.88 USD) per day of the trip, but he is paid 50,000 IDR (5.55 USD) because he has higher skills. His salary is not guaranteed. If there is bad weather, or the boat owner calls a trip back for another reason, he may receive little or no salary.

Two years ago, the boat on which Dennys was working stopped in the middle of the sea. Trying to fix the motor, two of his fingers were crushed, causing him to be hospitalized in severe pain for several days. He ultimately lost his fingers. The boat owner heard of his plight and helped pay a portion of his medical costs, but the rest was Dennys's responsibility. Dennys felt this was unfair, since he was injured while working to make a profit for the boat owner. But Dennys feels that if he asks for further financial assistance, it could sour his relationship with the boat owner and he might not be allowed to work for him again.

Dennys's entire livelihood, especially now that he has an injured hand, rests upon maintaining a good relationship with the boat owner. He also needs to maintain a good relationship with the admiral so that he can continue taking "advance payments" on his salary between trips. He can borrow 50,000 IDR (5.55 USD) before each trip from the admiral.

Verbal Abuse: Because the admiral's pay structure is entirely based on the size of the catch, he has strong motivation to be aggressive in going after large catches. Child workers, in particular, described being yelled at by the admiral as an inducement to work harder or to reprimand them for mistakes.

Lack of Contracts and Benefits: None of the workers interviewed had any type of contract or employment agreement with the admiral or the boat owner. Nor did any of the workers receive benefits such as medical insurance. If a worker is injured while fishing, the admiral or boat owner may cover some of his medical costs, but this is entirely by discretion. This adds another layer of dependency between the workers and the admiral. One worker described the need to stay in the good graces of the admiral as an informal form of health insurance. (See also the case of Dennys.)

While no aspects of the employment relationship are formalized, all fishers interviewed reported that they knew the terms of employment before they started and that the actual conditions were as they expected.

Blast Fishing in South Sulawesi Province

Introduction and Current Understanding

Illegal fishing represents a large segment of all fishing activities in Indonesia.¹²⁹ While there are several types of illegal fishing in Indonesia, including all unregistered/unlicensed fishing, trawl-net fishing¹³⁰ and cyanide (or 'poison fishing'),¹³¹ this report is concerned with fishers involved in blast fishing.

Blast fishing is widely practiced to catch fish quickly with fewer costs to the fishers. Because it is targeted at schooling reef fish, fishers are able to catch entire schools of fish with one or two bombs.

In current blast fishing practice, fishers throw bombs made from ammonium nitrate mixed with fertilizers and fuel oil into schools of fish. The impact of the bomb varies depending on size. Small bombs (packed in a 150-ml bottle) will have an impact covering two to three square meters of water. A large bomb – packed in a one-liter bottle – can affect 10 to 20 square meters. The bottles are sometimes weighted to sink deeper into the water. A waterproof wick, which is one of the more difficult components to obtain because they are illegal in Indonesia,¹³² is added. Fishers watch for schools of fish in coral reefs or in open water then move their boats to approximately five meters from the school. They then light the wick and throw the bomb into the water. Fishers dive into the water after the blast to collect the fish that are killed or stunned by the blast from the explosion. Divers either free dive or use an air compressor for oxygen.

The most common catch from blast fishing is a mix of fulier, scad, and sardines; grouper, snapper, surgeonfish, and rabbitfish are rarer.¹³³ Previous research has attributed increasing demand for these types of fish to increased demand for exports and well as the expansion of tourism in the area.¹³⁴ Fish processing companies with

access to international markets have opened in the provincial capital, Makassar, where fish harvested through blast fishing are sold to middlemen.

Blast fishing is common in many parts of Indonesia. It was first introduced to Indonesian fishers during World War II by Japanese soldiers with excess explosives. Its popularity waned due to lack of explosives, then rose again during the 1950s when soldiers rebelling against the Sukarno administration used several islands in the Spermonde archipelago as a base. It has become more popular in recent years.¹³⁵ The increase in blast fishing is tied to increasing demand for reef fish at the same time as fish populations are dropping. Demand for these types of fish has increased as new fishing

ports were established in South Sulawesi,¹³⁶ and fish processing companies with access to international markets opened in the provincial capital, where fish harvested through blast fishing are sold to middlemen.¹³⁷ One report estimates that more than 75 percent of fishers in South Sulawesi practice blast fishing.¹³⁸

Coinciding with the rise in demand, fish biomass has dwindled throughout the Spermonde archipelago due to the destructive nature of blast, cyanide, and trawl-net fishing. Blast fishing is particularly environmentally destructive, because it not only kills the targeted fish, but immature fish and the surrounding coral as well.¹³⁹ The type of blast fishing practiced in Indonesia “shatter[s] all corals within a one to five meter radius and kill[s] marine organisms up to a radius of 77 meters,” leaving the reef unable to support marine life due to “decreased habitat complexity.”¹⁴⁰ Since these

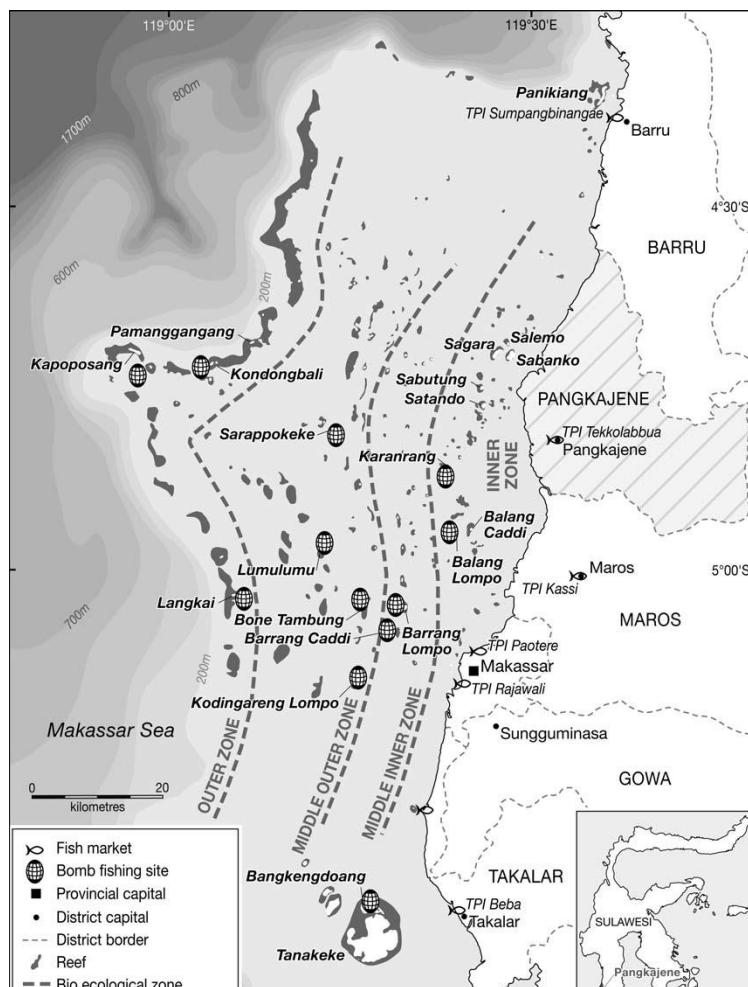


Figure 7 -Siry, Hendra Y., Marking Decentralized Coastal Zone Management Work in Indonesia: Case Studies of Kabupaten, Konawe, and Kabupaten Pangkajene Dan Kepulauan. Australian National University, Thesis, 2009

forms of illegal fishing are relatively efficient and “yield from a single, well-placed soda bottle bomb will earn an Indonesian fisherman over five times the average worker’s daily salary,” they become more and more attractive to fishers who cannot make a livable income using more traditional methods due to dwindling numbers of targeted

fish.¹⁴¹ Blast fishing represents a last chance for fishers to provide for their families through fishing when more traditional methods fail. This creates a spiral in which stocks are further depleted, causing an increase in more intensive fishing methods.

The Spermonde archipelago, where research was conducted, has a total area of 40,000 hectares and consists of over 100 small islands. The islands are located off of the coast of South Sulawesi in the Makassar Strait, and about 54 are populated.¹⁴² Most have only been populated since World War II.¹⁴³ The spread-out nature of these islands, combined with a low population density, make them hard to patrol or monitor.

Kodingareng, the island in which research was carried out, is one of the small Spermonde islands. The island is administratively part of the Makassar government district. The island is small (about 48 square kilometers). The population of the island is approximately 4,200.¹⁴⁴ The education level is low, with most residents having only an elementary level education.¹⁴⁵ Previous research found approximately 20-30 blast fishing bosses (*jurang*), each with approximately six workers (*sawi*).¹⁴⁶ Other livelihood options on the island include more traditional types of fishing, small-scale vendor business, civil service, and construction.¹⁴⁷

While fishing is conducted during both the East and West Seasons, the East Season is known to have calmer, better conditions for fishing, so the sector is generally more active during that time. Fishing also occurs during the West Season. The seasonal aspect to fishing in the Spermonde islands means that the work cycle is inconsistent. Fishers may go through periods of heavy work in the East Season, only to have periods of little to no work in the West Season – necessitating purchasing goods for daily needs through credit, which will be discussed later in this report.

On a daily basis, the preferred time for blast fishing is early morning, so fishers leave shore around sunrise. Small-medium size ships will operate until approximately 10:00 am when the fish market opens. Fish prices at market go down as the day goes on and supply increases as more boats come in, so arriving early at the fish market is advantageous. Many small-medium sized ships that cannot go out for multi-day trips will make a return trip in the early evening with fish to sell the next day at market. Blast fishing rarely occurs at night as daylight is required to site the schools of fish, and to collect them from the sea-floor.

Blast fishing in South Sulawesi is closely tied to social structures. The people living in Spermonde are primarily ethnically Bugis and Makassar. Across both ethnicities, social organization is heavily dependent on a 'patron-client' relationship that has a long history throughout South Sulawesi.¹⁴⁸ While this mode of social organization is relevant to the general population, it plays out in specific ways in the population engaged in blast fishing.

There are two main types of actors engaged in blast fishing. The boat owner is the ‘boss’ (referred to as the *juragang*) and provides necessary materials such as explosives. The fishers themselves are known as the *sawi*.

Fishers who participate in blast fishing activities tend to live in somewhat insulated communities, often centered around the *juragang*. (This is due largely to the remote nature of the Spermonde islands, and is reinforced by the engagement in an illegal activity for livelihood.)

The relationship between the *juragang* and *sawi* conforms to the general pattern of patron-client relationships. The *juragang* uses his higher social status and economic resources to procure contraband materials through access to highly protected networks.¹⁴⁹ A *juragang*’s means of procuring these materials are kept secret both because the materials are banned, but also to maintain the *juragang*’s status within the community. Because *sawi* do not have access to these networks, and few to no alternate livelihood options, they are completely reliant on the *juragang*. The *juragang* provides an important source of credit within the community, and the *sawi* frequently borrow money to pay for various livelihood needs and larger events such as weddings or funerals.

Because blast fishing is banned in Indonesia, evading the attention of police and the Navy is a primary activity of blast fishers, who can target illegal fishing operations for bribes. *Juragang* set aside money to pay bribes to police officers each month. This is another way in which the *sawi* is dependent on the resources of the *juragang*. If boats are caught by other patrols, they are forced to either pay a bribe on the scene or to risk being arrested and going to court. If *sawi* are arrested while engaging in blast fishing, the *juragang* takes responsibility for paying their bail and use his political networks and connections to free the *sawi*. In some cases, *juragang* can secure “connections” with government officials, essentially paying a bribe to protect his crew from harassment.¹⁵⁰

Finally, the *juragang* connects fish caught by the *sawi* with the mainland market, thereby acting as a middleman in the sale of the fish and securing of profit.

In turn, and partially due to these multiple layers of dependencies, *sawi* tend to be very loyal to their *juragang*. *Sawi* may frequent the *juragang*’s house to participate in social activities like watching television.¹⁵¹ They may even participate in chores at the *juragang*’s house as a way of demonstrating loyalty – however these activities are not “required” or “forced.” How this relationship plays out relative to the indicators of forced labor will be explored later in this report.

As regards the fishing process, there are several roles on a typical blast fishing boat:¹⁵²

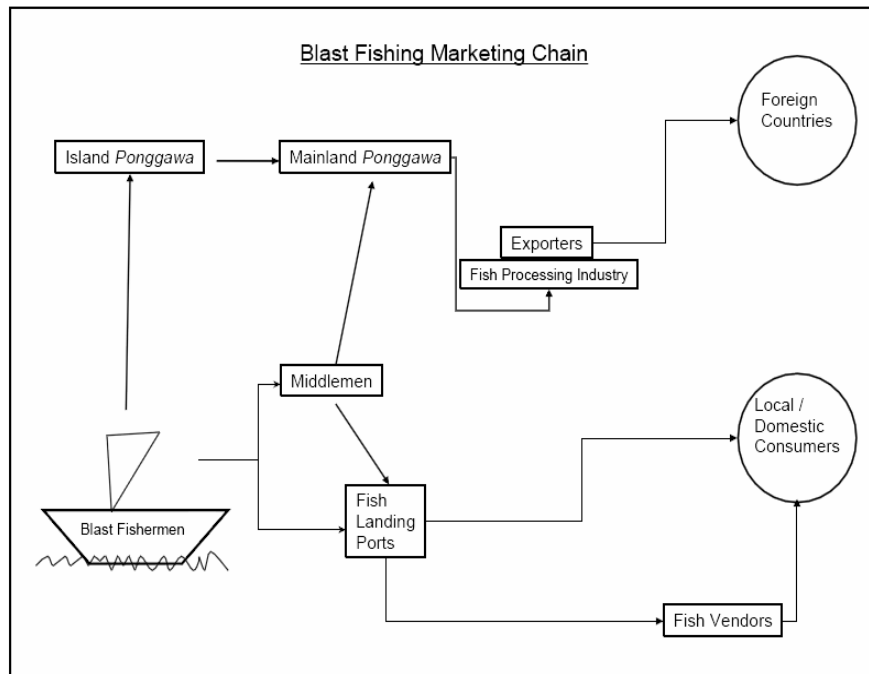
- The captain (*pandega*) is the leader of the boat, and often the *juragang* himself. Sometimes, the *juragang* will hire someone else from the island to captain the boat. If someone besides the *juragang* is hired, he is generally an experienced fisherman. The captain has ultimate responsibility for all aspects of the voyage.

- The observer (*patula*) scans the sea to determine the best place for fishing activities.
- Paddlers paddle the off-board *lepa-lepa* (canoe-like vessel) to the location from which the bomb will be thrown.
- The igniter (*pa'tunu*) ignites and throws the bomb as directed by the *patula*.
- The helmsman (*paguling*) guides the boat's movements using a compass.
- The divers (*paselang*) dive to the ocean floor to collect fish after the bombing. *Paselang* are primarily young, unmarried men. As the most dangerous, least desirable job, this is seen as the entry to blast fishing. Children are often called upon to perform this job as their lungs are viewed as the healthiest.
- Many boats also carry a machine technician (*bas*) who cares for the engine and compressor.

There are also *sawi* who act as “jack-of-all-trades” and help where they are needed, rather than specializing in one specific task. In fact, most *sawi* are able to perform several tasks, and although they may have a specialization, they are flexible and capable of taking on other tasks, having learned through observation and experience. The *sawi* with the most specialized skills find themselves higher in an informal hierarchy among crew members.¹⁵³

Fish caught with blast fishing methods are the property of the *juragang* who supplied the materials and the boat. He uses his connections to sell to middlemen (known as *pabaloang* or *panngawa*), or bypasses the middlemen and sells directly to fish markets on the mainland, most commonly fish markets in Rajawali and Paotere.¹⁵⁴

The majority of blast fishing harvest is destined for the domestic market, and very little of the harvest ends up for export. This is due to the poor physical condition of the fish, which tend to be broken and easily deteriorate. There is no reliable data available on the composition of the target market for fish harvests from blast fishing.¹⁵⁵ The blast fishing marketing chain is shown below.



The blast fishing marketing chain.

Source: M. Chozin, 2008, *Illegal but Common: Life of Blast Fishermen in the Spermonde Archipelago, South Sulawesi, Indonesia*

Behind these fishers in the field is a network of material suppliers [for explosives or poison], security back-ups, fish collectors, fish marketers, and, in some cases, fish exporters.¹⁵⁶

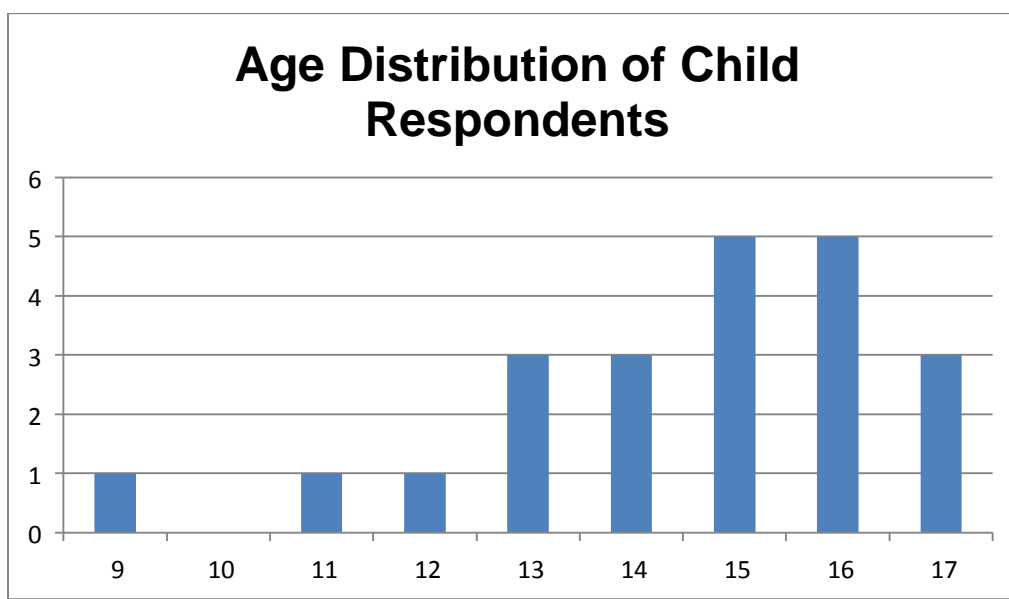
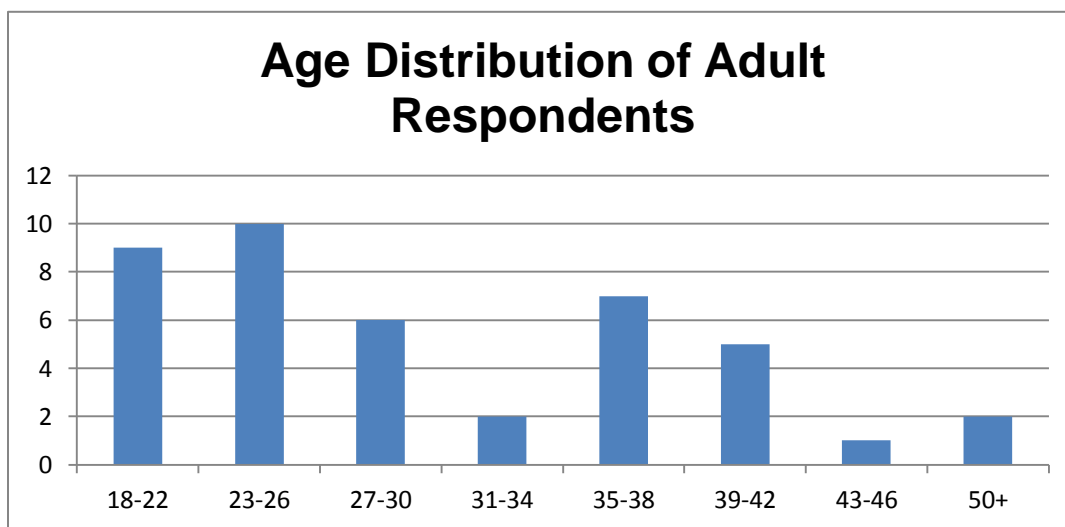
Previous reports on blast fishing have focused on the environmental aspect; and in general, information on this type of fishing practice is scarce. Verité used one publication in particular as a basis of understanding for its research in the Spermonde Islands: the dissertation of Muhammad Chozin at Ohio University. Published in 2008, this dissertation provides a solid basis of information about the supply chain for blast fishing in the Spermonde Islands, as well as an accounting of the actors involved in the practice, particularly on the island of Kodingareng. Verité also consulted directly with Chozin during the rapid appraisal and research design phases of the project.

Research Findings

Demographic Characteristics of Respondents in Blast Fishing

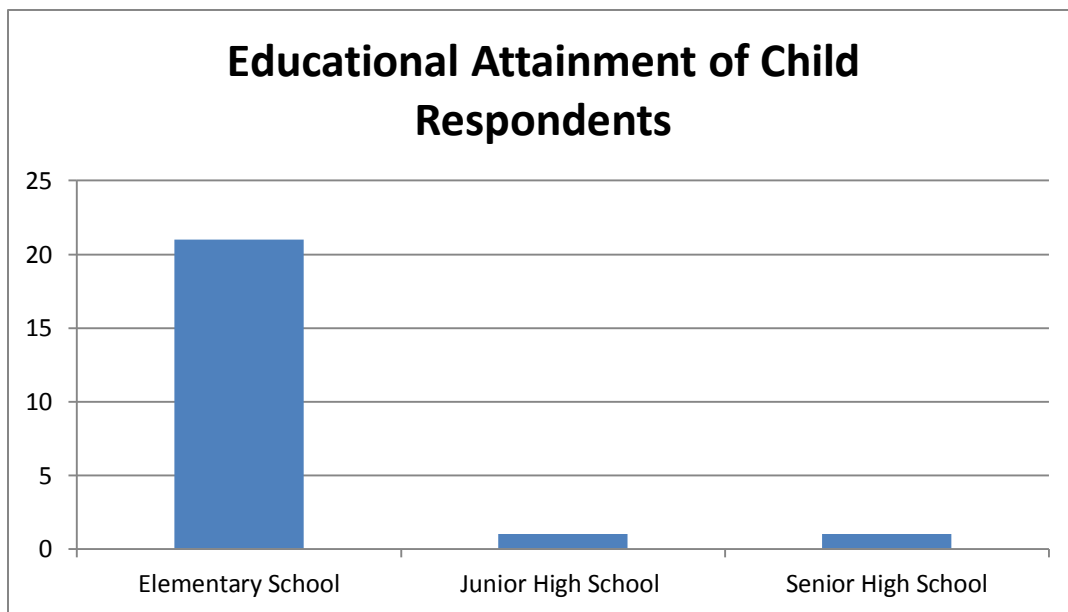
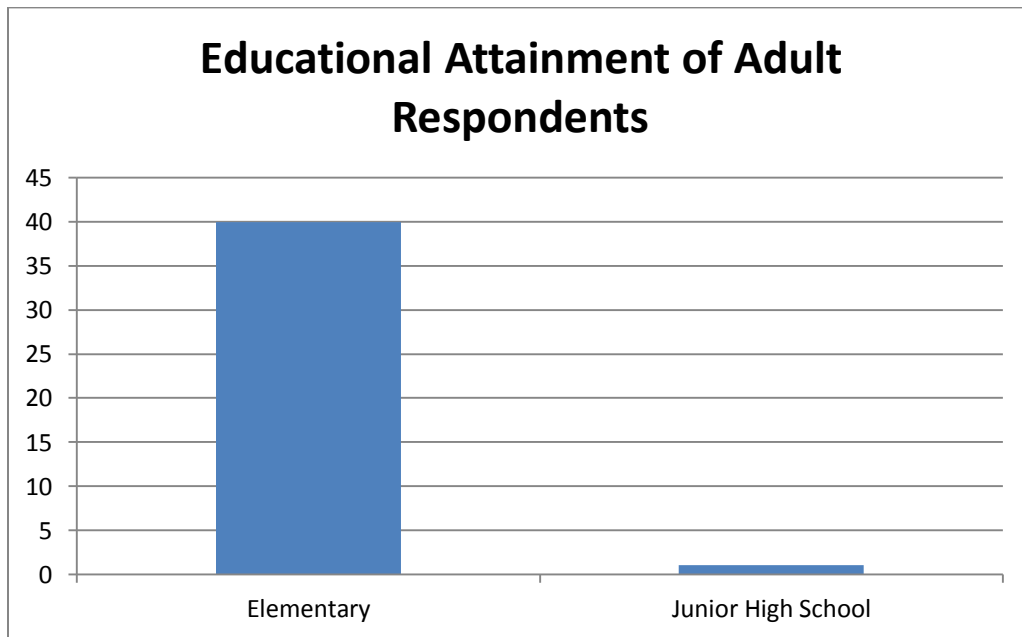
Gender: Both male children and adult men are involved in blast fishing.

Age: Verité researchers interviewed a total of 64 respondents, including 22 child and juvenile workers ranging in age from nine to 17, with an average age of 14.5; and 42 adults ranging in age from 18 to 52, with an average age of 30. The average age of entry into blast fishing for child workers interviewed was 12.



Origin: Workers were all relatively local – no workers reported migrating to work in the blast fishing sector.

Educational Attainment: The average level of education of respondents was low with majority of workers reporting an elementary education level.



Alternative Livelihood: For most adult workers interviewed, blast fishing was seen as one of very few options for livelihood. The lack of alternate livelihoods positions blast fishing as relatively desirable. While several adult workers had previous occupations (five in construction, one in selling firewood), most had only ever worked in fishing.

Entry into Sector: Nearly all adult workers who responded (41 out of 42) explained that they had chosen this line of work due to a combination of lack of alternatives and the need to earn a livelihood. Some also described their choice of employment in more 'positive' terms (i.e., they like the work). All adult respondents also had friends or family members involved in illegal fishing, pointing to the primacy of this sector as a livelihood provider. Other means of fishing are practiced on the island, but due to resource depletion (itself caused by illegal fishing), blast fishing is the most economically efficient fishing method.

Of adult *sawi* who reported their means of recruitment, 26 found their jobs through the *juragang* (either recruited by the *juragang* or approached the *juragang* for work); three reported finding the job through family (such as brother or uncle); and two found the job through a friend. Of child *sawi* interviewed, twenty-five (out of a total of 26) of the child workers were encouraged to enter blast fishing by their parents, who saw it as a good opportunity to make a living.

Presence of Indicators of Forced Labor in Blast Fishing

Pre-existence of dependency relationship with employer: *Juragang* provide *sawi* with access to credit, materials, and protection from arrest. *Juragangs* are leaders in the community and traditionally have high levels of social capital.

Physical Violence (and Verbal Abuse): Nine children interviewed reported being physically hit as a form of punishment. All but three of the children interviewed reported being verbally "scolded" by their supervisor, for infractions such as making mistakes or working too slowly.

Wages: According to interviews, earnings for *sawi* are determined by the volume of catch on any given trip, as well as the market rate secured by the *juragang* who sells the catch to a middleman. After receiving payment, the *juragang* first pays off his investments (materials, gasoline, ice, etc.). The rest of the profit is divided in half, with half being retained as profit by the *juragang* and half being divided among the workers.

Workers interviewed reported average monthly earnings of 423,809 IDR (46.75 USD). Earnings are determined by catch and are highly variable. Workers reported an average pay of 50,000 to 100,000 IDR (5.57 to 11.14 USD per trip.), with the number of trips per month being highly variable depending on the season and weather conditions. Child workers are generally paid at a slightly lower rate; child workers interviewed reported a wage of 10,000 – 100,000 IDR (1.14 to 11.14 USD) per trip.

Wages were generally paid as expected, however, both child and adult *sawi* reported that if any given fishing expedition had been unproductive, and the amount of the catch was not enough to cover expenses such as gasoline and ice, they would not be paid. As the coral reefs continue to be destroyed, it is more and more likely that fishing trips will result in no pay to the workers.

Working Hours: Work hours were highly variable. *Sawi* interviewed reported daily hours of three to 17 hours, with an average fishing trip of ten hours. Length of trip is determined by the size of the boat. Larger boats are able to accommodate longer trips, as fish can be packed on ice and stored. However, as discussed previously, these hours are highly dependent on the seasonality of fishing; and depending on weather conditions and tides, fishers may go for long periods without fishing at all. They are more likely to take loans from their *juragang* to cover living expenses during these periods.

Although multi-day fishing expeditions inherently mean that workers are isolated on a boat for that period of time, all workers reported that, if it was absolutely necessary (for example, if someone became very ill), the *juragang* would return the boat to shore.

Indebtedness: 35 (out of 42) of the adult *sawi* reported taking loans from their *juragang* to pay for daily living expenses (food, clothing), holiday/special events (such as weddings, funerals or the *Eid* holiday), or for luxury purchases such as technology (cell phones, televisions) that are becoming more and more common on the island of Kodingareng. Although the number of loans that any given *sawi* might take varied, most took several loans per year. No *sawi* reported having to pay interest to their *juragang*, and no *sawi* reported that providing collateral was a necessary condition of taking a loan.

With the exception of one worker who said he could take a loan from a pawn shop, all *sawi* reported no alternative sources of credit other than the *juragang*.

Of the adult *sawi* workers who reported debt, the average debt reported was approximately 900,000 IDR (98.48 USD). However, most *sawi* interviewed did not know the exact total of the debt to their *juragang* and told researchers that they were only estimating their response. These workers reported that the *juragang* keeps track and “deducts it gradually from their salary,” so it can be hard to tell when a debt is completely paid off. Thus, workers may be continuously in debt, while still bringing home most of their earnings.

All *sawi* with debt to their *juragang* reported that they were required to pay back their debt to the *juragang* if they wanted to quit, move, or work with another *juragang*. Most workers reported that they were able to quickly pay off this debt if they needed to. While most workers did report no loan interest, and no set period of repayment, the worker interviewed with the largest debt, 5 million IDR (556.79 USD), reported a four-month loan duration, with accruing interest.

Because relationships with *juragang* are based in loyalty, *sawi* interviewed said that they could hypothetically move to another *juragang* if they wanted to, but that such a situation would be unlikely. They would lose a longstanding relationship, and the *juragang* would “no longer trust [us] when [we] moved back,” said one worker interviewed. Another worker interviewed said that if someone stopped paying his debt or

went to work for another *juragang* “the *juragang* would be mad, but there is nothing he could do.”

Workers reported that if someone were to die while still holding debt, the *juragang* would likely forgive the debt and not require family members to work to pay it off.

Other Issues of Concern Regarding Working Conditions in Blast Fishing

Hazardous Activities: Safety in blast fishing is a serious concern. Nineteen children interviewed reported feeling fear at work. The most common fears were paralysis, being knocked out of the boat by waves, and sharks. Children are most often called upon to act as divers. Adults interviewed in the community reported that children were better suited to diving due to better physical stamina and lung capacity. Fourteen children interviewed reported that they act as divers. Divers rely on air compressors used to inflate tires while diving to great depths, which can be an inadequate form of receiving oxygen. Thus diving too deeply can result in paralysis or “the bends”. All child respondents knew someone who had been paralyzed while diving. Pressure on the ear drums during dives can also lead to hearing loss, although this was unreported among *sawi* interviewed.¹⁵⁷

The bombs themselves are also hazardous, particularly for more inexperienced *sawi*, including children. *Sawi* face the danger that an improperly made bomb could explode while still on the boat, or in the hands of one of the crew. Workers reported knowledge of other fishers in the community who had lost fingers this way.

Child Labor: Both male children and adult men are involved in blast fishing. Interview respondents included 22 child and juvenile workers ranging in age from nine to 17, with an average age of 14.5. The average age of entry into blast fishing for child workers interviewed was 12.

The most common means of entry into blast fishing for children interviewed was seeking out employment through a *juragang* that they had connections with, either through family or friends. Twenty-five (out of a total of 26) of the child workers were encouraged to enter blast fishing by their parents, who saw it as a good opportunity to make a living. In fact, adult *sawi* interviewed who also had children who work as *sawi*, described that work as a *sawi* was a “positive” option for their children and that working as a *sawi* was “better than playing around and not attending school.” Education past the elementary school level is generally seen as a waste of time, as teachers are often absent and illiterate themselves. Parents also stated that work as a *sawi* was advantageous because it was a means of livelihood that sons could start with little economic output (start-up costs) and in which skills could be learned directly from their fathers. Most (25 out of 26) children interviewed had friends who worked as *sawi*, before they got involved in the sector, which suggests that working as a *sawi* is seen as a relatively desirable option.

Children interviewed seemed to have some degree of knowledge regarding the conditions of work before they started, which is not surprising, as all of them reported friends or family members who also worked as *sawi* at the time of their recruitment. Ten children reported having knowledge of the type of work before they started, and each of those children reported that the knowledge they had of the job beforehand proved to be accurate once they started. However no children reported having knowledge about wages or salary before starting.

Child workers interviewed reported participating in tasks including managing the air pipe (for those diving), rowing and diving. Children are favored for diving, which is particularly hazardous, because it is believed that their lungs are stronger.

Six child *sawi* reported being in debt to their *jurang*, with reported debt averaging 123,333 IDR (14.00 USD).

Case Study – Adinda: Child Labor in Blast Fishing

Adinda is 14 years old, and has been working as a *sawi* since he was nine. He left school two years ago. He comes from a fishing family – both his grandfather and father have worked in the sector. His parents felt that his only viable future would be as a *sawi*, as school past the elementary school level would not be useful in the long term and Adinda stated that he shared this sentiment towards continued education.

Between the ages of nine and 12, Adinda worked after school to assist the *sawi* in preparing for their next fishing trip. At age 12, upon leaving school, Adinda began working as a diver. He was told he would be well-suited for this task because his young lungs would have better capacity.

Adinda stated that he is happy to have this job because he earns spending money for himself and because he helps support his family. He reported earning up to IDR 250,000 per fishing trip. He knows that his family had debt to the *jurang*, but seemed unclear if some of his wages were going to pay the family debt.

Adinda was aware of the risks of diving, including paralysis, but stated that these risks were worth it to him for the opportunity to earn a living.

Case Study – Netro and Paku: A Child's Work Tied by Social Custom to a Father's

Netro is a 16 year old boy who works as a *sawi*. Netro works as a diver and feels that his work is hazardous. He related to researchers the story of a time he was nearly hit by a bomb thrown by a friend. He is also afraid of being arrested by officials. Netro had dreamed of becoming a civil servant which is a respected position in his village. However, he cannot afford the advanced education that this job would require.

His father, Paku, currently works as a *sawi*. Netro's late grandfather also worked as a *sawi* for the same *juragang*. On days when he goes out, Paku earns a salary of approximately 100,000 IDR per day, which is just barely enough to cover his family's daily needs. During the off-season or periods of bad weather, his salary is much lower, or even nothing. Paku is in poor health, so even in peak season, there are many days when he cannot participate in fishing expeditions. When Paku runs out of cash, he borrows money from his *juragang*. At this point, he is not certain of the current amount of his debt. After each trip that he makes, "a little" is deducted to pay his debt, but this is not formally tracked anywhere.

Netro began working for his father's *juragang* as a way to contribute to the family income. No deductions are made from his salary to pay for Paku's debt, and Netro himself is not indebted. However, Netro feels that because his father is still indebted to his *juragang*, it would be frowned upon by the community if Netro were to quit working as a *sawi* altogether, or to move to another *juragang*.

Conclusion

This report has covered background information on Indonesia and the fishing sector; the methodology that was developed to study the presence of indicators of forced labor in particular areas of the Indonesian fishing sector; the presence of indicators of forced labor and other labor violations; and the factors that increase workers' vulnerability to labor exploitation. While these findings are not statistically representative, the report provides an overview of the indicators of forced labor and other forms of labor exploitation uncovered amongst fishers, as well as factors that increase workers' vulnerability to labor exploitation.

Risk Factors for Indicators of Forced Labor Identified by the Research

Fishing plays a crucial role in providing livelihoods to the many residents of Indonesia's coastal communities. However, Verité's research identified certain groups of workers that may be particularly vulnerable to exploitation:

- Mentally disabled individuals were identified working on *jermals*. As these individuals and their families have few alternative livelihood options, work on *jermals* may be seen as a last resort. These workers are vulnerable above and beyond other individuals as they lack resources to advocate for themselves or to escape abusive situations.
- Children were identified working in small-boat fishing and blast fishing. The types of work required in these sectors are often hazardous, and put children at risk of injury. Children interviewed reported two primary reasons for entry into the fishing sector. First, they wanted to help support their families. Second, continued schooling is often inaccessible because it is either unaffordable or because there is no decent school nearby.

Verite also identified several predominant indicators that increased workers' vulnerability to forced labor or exploitation.

- Debt and Low Earnings: Social systems and lack of access to capital can put workers at risk of exploitation, although they are not necessarily exploited in practice. Because many fishers live in extreme poverty, they rely on patronage relationships to provide them with capital for fishing and access to credit.

While fishers express gratitude for the access and protection that their patrons (or boss) can provide, the relationship dynamic is often one of dependence. In boat fishing in North Sumatra, anchovy fishers also often end up indebted to their boat admiral. While fishers often have alternate sources of loans, taking loans from the admiral is considered preferable as these loans are seen as "advances on payment" and repayment is not charged with interest. These loans are generally a relatively small amount and do not effectively bind the workers to the admiral, although they do reinforce dependency on the admiral and reinforce the hierarchical, patron-like relationship.

In blast fishing, practiced in South Sulawesi, fishers known as *sawi* have multiple layers of dependency on their patron or boss, known locally as the *jurangang*. *Jurangang* are the center of the island communities, and much of a *sawi*'s identity within the community is tied to the *jurangang* for whom he works. Most *sawi* do not have direct access to materials for blast fishing, and instead rely on the *jurangang*'s networks to procure these contraband materials. *Jurangangs* may also provide loans to the *sawi* who work for them. These loans, used for household necessities, as well as events such as religious holidays, weddings and funerals represent the only access to credit for the *sawi*. Collection on debts may be lax, with *sawi* paying off debts little by little over many years, and there is no accounting system. While there are few enforcement measures to ensure repayment of debt, there is a cultural expectation that a *sawi* will continue to work for his *jurangang* to show loyalty and thanks for the loans he has been given.

Low Earnings: Fisher's reliance on loans is exacerbated by low earnings. In the case of small boat fishing, fishers are paid by the day but higher status workers such as admirals are paid on a bonus system, depending on the volume of the catch. This means that the admirals are incentivized to induce the fishers to work harder and longer, but the fishers themselves will not share in the reward of a higher volume catch. On the other hand, if a trip is unsuccessful and no fish (or a low volume of fish) are caught, the workers may not receive their daily payment, meaning that they have a higher burden of risk without the possibility of higher reward. Wages for *sawi* in blast fishing are also extremely unpredictable and based on the volume of catch. Fishers utilize blast methods in an attempt to eke out a living through a more efficient fishing method, but with the ongoing environmental degradation from such practices, incomes will continue to decrease. Because fishers receive low wages, they are more likely to rely on their employers or supervisors for income smoothing loans, and more likely to enter debt.

Isolation at Sea: Due to the nature of fishing, while fishers are on board vessels, they face some degree of isolation. This is particularly applicable in the case of *jermals* where workers may stay for up to three months. Once workers are on a vessel or platform, their freedom of movement is inherently limited, making them vulnerable to abuse from supervisors. Workers are also under constant surveillance while on board vessels or platforms.

Health and Safety: All types of fishing ventures carry risk, and fishing has been identified as one of the most hazardous occupations as the sea is unpredictable and can be dangerous. Blast fishing carries the specific risks of explosive use, as well as the risk of paralysis from diving deep under the ocean without proper equipment.

Overall, many workers expressed frustration at a lack of alternative livelihood. Many noted a desire to work in another sector, but lamented that due to a lack of alternatives, they would remain engaged in fishing.

Lessons Learned

This research exposed some of the challenges of conducting research on hidden populations and vulnerable workers. These challenges faced included:

- Difficulty accessing hidden populations, particularly those involved in illicit activities. Researchers were ultimately able to access respondents via contacts with community leaders, and members of the research team who had ties to the community and a pre-existing relationship of trust. In the cases of blast fishing and small-boat sampling, lack of a reliable sample frame led researchers to use respondent driven survey techniques such as snow-ball sampling. While this meant that the results were not statistically representative, it did allow researchers to have access to populations that are often hidden.
- Difficulty in interviewing workers while on platforms or vessels, due to the presence of supervisors. In the case of blast fishing and small-boat fishing, researchers interviewed most fishers away from the worksite to gain privacy. In the case of *jermals*, where workers are on the platform for up to three months at a time, former *jermal* workers were interviewed in their home to gain more information about working conditions.
- General difficulty in accessing work sites. Ports are often in remote towns and not easily accessible. Further, as the research team experienced when a researcher was knocked over board trying to climb aboard a *jermal*, conditions at sea can be hazardous.
- Challenge of interviewing mentally disabled workers. As some workers were not able to verbally communicate with researchers, researchers tracked down the family of one of the disabled workers. The family was able to provide background of how that worker had ended up on the *jermal*, as well as some of his experiences there.
- Challenge of interviewing children. Children were not necessarily able to provide accurate information about issues such as debt and payment mechanisms or precise information about hours worked. Researchers worked to establish rapport with the children and to phrase the questions in ways that would be more intuitive for them. For example, if a child had difficulty describing his work hours, a researcher could ask if he started work when it was light or dark outside? Morning or night? What about when he ended? etc. Children were encouraged to respond in their own words, which researchers then coded systematically in data sheets.

In general, Verité found that multiple sources of information were needed to triangulate findings and provide an accurate, nuanced view. This includes literature review, expert consultations with a wide variety of stakeholders, and interviews with workers, employers, and other actors.

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Appendix I: Case Study on Anchovy Workshops



Figure 8 - Verite Photo, Workshop workers at night

Researchers, while in North Sumatra researching boat fishing became aware of a large number of anchovy workshops. Researchers observed that the labor pool appeared to be predominantly female and included children. To provide a fuller picture of labor conditions in the anchovy supply chain in North Sumatra, researchers conducted interviews with eight female workers ages ten-17.

After anchovies and other small fish are caught on anchovy small boats, they are brought to a warehouse or workshops, as the small boats have no sufficient place to cook and dry the fish after it is caught. Small boats unload their fish at the dock, where it is transported to the workshop.

While anchovy warehouses/workshops were not a focus of this research, the Verité research team elected to conduct a small, anecdotal, qualitative assessment of these facilities in order to give a fuller picture of the anchovy supply chain and to assess whether problematic labor conditions may be present.

Researchers directly interviewed eight female workers aged ten to 17, and observed a handful of workshops in operation. Located on the main streets of port towns, workshops are highly visible, and observation of their activity was relatively straightforward.

According to researchers' observations, the primary labor pool in the workshops is comprised of women and children (mostly girls). Workshop work requires long hours. The workers have to quickly sort the fish and process it to avoid decomposition. They start work in the afternoon, after the unloaded fish is brought into port by boats. Workers are engaged in sorting, boiling, salt processing, and drying. Some larger types of fish are stored on ice. Workers generally work throughout the night, although some workers who are assigned to drying the fish will work in the morning to afternoon.

Workshop workers interviewed reported being paid on a piece-rate basis; workers interviewed received about 750 IDR (.08 USD) per kilogram of sorted fish.

As with children involved directly in fishing, the girls interviewed in the workshops all had parents who were involved in the fishing sector and most said there was no other job available to them.

Case Study – Lastri: Young and Exhausted

Lastri is a ten-year-old elementary school student. Every day, after school, she accompanies her mother to work in an anchovy workshop. The workshop is known as a “*gudang ikan teri*” – a place where fresh anchovies are processed into dried fish for sale.

Lastri works with other children ranging in age from ten to 17 at the workshop. Of 35 total workers at the workshop, ten are girls. She knows of other children at other workshops in the area as well. Most come from the nearby village, but Lastri has heard of some families who come from farther away.

Lastri started working last year when her mother asked for her help to support the family. Lastri still goes to school, but when she's done, she still has a long day ahead of her. After school, she works from 3:00 – 6:00 p.m., takes a break, and then works from 10:00 p.m. to 1:00 a.m. She goes home after 1:00 a.m. so she can get some sleep before school the next day, but her mother and the other adults (and some of the teenagers) keep working until 6:00 a.m. Lastri has noticed that most of the teenage girls have stopped going to school.

Lastri is paid like the other workers and earns 750 IDR (.08 USD) per kilogram of fish that she cleans. Most days, by working hard, Lastri can average 10,000 to 15,000 IDR (1.11 to 1.67 USD) in earnings; while her mother earns 40,000 to 50,000 IDR (4.45 to 5.56 USD), since she works longer hours. Normally, Lastri and her mother are paid daily, but sometimes pay is delayed by a few days if the boss does not have enough cash.

The floor of the workshop is wet and slippery, so workers have to walk carefully. One time, when she was tired and sleepy late at night, Lastri fell and bruised herself. She was not badly hurt that time, but it scared her, and she knows she has to be careful. Lastri has heard of other workers falling, or getting cut by sharp equipment.

There are many nights that Lastri sleeps at the workshop while she waits for her mother to finish working. On those nights, she sleeps in a corner using a net as a bed and newspaper scraps as blankets. The air smells strongly of drying fish, but Lastri barely notices the smell anymore. Her mother will wake her up the next day for school and she starts her work cycle all over again.

Appendix II: Legal Review

Forced Labor

Indonesian labor law includes an explicit prohibition of forced labor. However, compulsory prison labor is allowed by the Criminal Code. According to the ILO, under articles 49 and 50 of Law 2/2008, anyone who makes donations to a political party in excess of legal limits and members of the executive board of a political party which receives donations in excess of legal limits or “uses the party for adopting, developing, and disseminating ‘Communism/Marxism-Leninism’,” may be imprisoned with the possibility of compulsory labor.¹⁵⁸

The ILO noted that, when read in conjunction, sections 139 and 185 of the Manpower Act provide for sanctions of up to four years’ imprisonment involving compulsory labor for striking in enterprises that serve the public interest, which contravenes ILO Convention 105.¹⁵⁹

The government enacted a comprehensive anti-trafficking law in March 2007 which outlaws all forms of trafficking, as well as debt bondage and sexual exploitation. The law provides penalties ranging from three to 15 years in prison for government officials and labor agents convicted of complicity in such activities.¹⁶⁰

Child Labor

In April 1999, the Indonesian government established the minimum age for employment at 15 years of age. However, the legal definition of childhood is unclear. While the Child Protection Law defines children as those under 18, another law sets the age of marriage at 16 for females and 19 for males. The Manpower Act prohibits employment of “children,” defined as persons under 18, but provides that light work is allowed for children aged 13 to 15 for no more than three hours per day, as long as they have parental consent, do not work during school hours, are paid the legal minimum wage, and the job does not stunt or disrupt their physical, mental, and social development.¹⁶¹ Children 14 years old or older are permitted to hold a job or perform piece work as part of their educational curriculum or training, provided that such activity has been approved by competent authorities.

Under Decision No. Kep-235/Men/2003, individuals under the age of 18 are prohibited from performing work classified as harmful to their health, safety, or morals. Types of prohibited work include work involving chemical or biological hazards; work related to machines, engines, and other heavy equipment; work at dangerous heights or extreme temperatures; work of a typically hazardous nature, such as construction, working on ships, or carrying heavy objects; and work considered to be morally harmful to children, such as promoting drugs or alcohol or working in places where they are sold.¹⁶² In addition, the Child Protection Act prohibits the economic exploitation and trafficking of

children, and establishes severe criminal penalties, including prison sentences, for the violation of children's rights.¹⁶³

Conditions of Work

There is no national minimum wage in Indonesia. Provincial authorities establish minimum wages that vary by province, district, and sector and are based on proposals by tripartite commissions. At the district level, minimum wages are established using provincial levels as references, and can vary by sector.¹⁶⁴ In 2009, Papua established the highest minimum wage, at IDR 1,180,000 (USD 131) per month, while the lowest minimum wage was IDR 570,000 (USD 63) per month, in East Java province.¹⁶⁵

The Manpower Act of 2003 stipulates that entrepreneurs are prohibited from paying wages lower than the minimum wage. However, it allows entrepreneurs who are unable to pay minimum wages to postpone the payment of wages. A November 2008 ministerial decree discourages local government administrations from raising minimum wage levels above what manufacturers are capable of paying.¹⁶⁶

Indonesian law provides for a 40-hour regular workweek, requiring a 30-minute rest period for every four hours worked. The Manpower Act of 2003 exempts certain business sectors and types of work from the legal provisions governing regular work hours. Overtime must be limited to three hours per day and 14 hours per week. Premiums for overtime range from one and a half times the normal hourly rate for the first hour of overtime to twice the hourly rate for additional overtime.¹⁶⁷

The Manpower Act of 2003 states that all enterprises are obligated to implement an "occupational safety and health management system" integral to the overall management system. Workers are legally required to report hazardous working conditions, and employers are legally prohibited from retaliating against workers who file grievances.¹⁶⁸ However, there is no system established by law or regulation for reporting workplace safety problems.

Workers have the legal right to remove themselves from hazardous work environments without jeopardizing their employment.¹⁶⁹

Although there are no laws in Indonesia that explicitly prohibit workplace sexual harassment, the act is punishable under the Criminal Code.¹⁷⁰ Indonesian labor law states that "indecent behavior" is illegal; and the Criminal Law states that forcing women into sexual intercourse outside of marriage or threatening anyone with sexual harassment are crimes legally punishable with up to nine to 12 years of imprisonment. The ILO has encouraged the government to adopt legislative changes to explicitly define and prohibit workplace sexual harassment by ensuring victim protection and complaint mechanisms.¹⁷¹

Fishing Specific Laws

Law 45/2009

The Fishing industry is regulated by Law 45/2009. The law regulates all aspects of fishing including pre-production, production, processing, and trading. The government requires fishing boats and fishing companies to follow the law including, especially, the piece on regular inspections. Exception is given to small scale fishermen who fish on something smaller than a 5 GT boat.

- Environmental protection. Article 9 of the law prohibits anyone from possessing, carrying, or using any fishing equipment that could endanger the environment and sustainability of fishing in the country. This includes blast fishing practiced in South Sulawesi.
- Article 35A requires Indonesian boats that fish in Indonesian waters to use local workers, while foreign ships fishing in Indonesian waters are required to employ at least 70 percent Indonesian workers.
- Fishing ports. Article 45(3) says that the government manages all fishing ports and requires every fishing boat to engage with certain fishing ports for loading and unloading.
- Fishing inspection. The law requires the government to establish fishing inspection procedures. Fishing inspections require civil servant inspectors to monitor fishing activities, fishing husbandry, fish processing and distribution, fishing product quality, chemical products used for fish farming, conservation, pollution, research and study on fishing, biodiversity, and the genetic engineering of fish products.
- Fishing court. Article 71 of the Fishing Law sets up a specialized fishing court to investigate, process, and decide upon any violation to the fishing law. The fishing court is a special court under the general court. These fishing courts will be established in the state district courts of North Jakarta, Medan, Pontianak, Bitung, and Tual. The fishing court has authority to investigate and process any and all criminal acts in the fishing industry done both by Indonesian or foreign citizens in Indonesia territory.

Government Regulation on Seamanship (No. 7/2000)

- Article 17 of the Government Regulation sets some requirements for seafarers who work on a boat. They need to have attained the working competency certificate, be at least 18 years old, be physically and mentally healthy (proven by medical exam), possess a seafarer passport issued by the government, and have an effective working contract with an employer.
- Article 21 of the regulation says that working hours for a seafarer are eight hours per day or 44 hours per week with one day off weekly, and off days on national holidays. Work exceeding those hours should be calculated as overtime. Every seafarer should get at least ten hours of rest every day, which can be divided into two breaks with one of them lasting no less than 6 hours (except for in

emergency situations). Young seafarers aged 16 – 18 years old must not work more than eight hours per day and 40 hours per week. The young seafarers are also not allowed perform work during their rest time.

- Every worker is entitled to yearly leave lasting at least 20 days for every year worked. Based on employer request, the remaining leave balance can be converted into an additional fee.
- The employer must provide sufficient supplies for the workers on his boat, food equalling 3600 calories per worker per day, and enough mineral water, cooking equipment, and other necessities. The employer has to provide medical treatment for any ill worker and is required to pay the worker's salary when he is not able to work due to his illness. When a worker becomes sick abroad, the employer is also required to provide transportation for his return home.
- The boat should have sufficient resting place, toilets, and washing areas. There should be at least one bathroom for every eight persons on board. There should be a medical treatment room for every 15 workers with first aid facilities and medicine.

Appendix III: Summary of Presence of ILO Indicators of Forced Labor among Respondents in Platform (*Jermal*) Fishing in North Sumatra Province

As discussed in Methodology, Verité analyzed its findings with respect to the indicators of forced labor presented in the ILO's 2011 publication, *Hard to See, Harder to Count: Survey Guidelines to Estimate Forced Labour of Adults and Children*. A chart of these indicators follows.

		Present
Indicators of unfree recruitment of adults	Strong Indicators of Involuntariness	
	Tradition, birth (birth/descent into 'slave' or bonded status)	
	Coercive recruitment (abduction, confinement during the recruitment process)	
	Sale of the worker	
	Recruitment linked to debt (advance or loan)	
	Deception about the nature of the work	Deception about the nature of the work was reported by former workers. However, as current workers return repeatedly to the <i>jermals</i> , this may not currently be the case.
	Medium Indicators of Involuntariness	
	Deceptive recruitment (regarding working conditions, content, or legality of employment contract, housing and living conditions, legal	

	documentation or acquisition of legal migrant status, job location or employer, wages/earnings)	
	Deceptive recruitment through promises of marriage	
	Strong Indicators of Menace of Penalty	
	Denunciation to authorities	
	Confiscation of identity papers or travel documents	
	Sexual violence	
	Physical violence	
	Other forms of punishment	
	Removal of rights or privileges (including promotion)	
	Religious retribution	
	Withholding of assets (cash or other)	
	Threats against family members	
	Medium Indicators of Menace of Penalty	
	Exclusion from future employment	

	Exclusion from community and social life	
	Financial penalties	
	Informing family, community, or public about worker's current situation (blackmail)	

Indicators of work and life under duress of adults	Strong indicators of involuntariness	
	Forced overtime (beyond legal limits)	Workers are often required to work upwards of 18 hours per day.
	Forced to work on call (day and night)	There is no separation of living and work space and workers are often required to work upwards of 18 hours per day.
	Limited freedom of movement and communication	Limited freedom of movement and communication are inherent in physical structure.
	Degrading living conditions	The conditions of <i>jermals</i> are squalid and workers have no privacy. This is inherent in physical structure.
	Medium indicators of involuntariness	
	Forced engagement in illegal activities	
	Forced to work for employer's private home or family	
	Induced addiction to illegal substances	
	Induced or inflated indebtedness (by	

	falsification of accounts, inflated prices for goods/services purchased, reduced value of goods/services produced, excessive interest rates on loans, etc.)	
	Multiple dependency on employer (jobs for relatives, housing, etc.)	
	Pre-existence of dependency relationship with employer	
	Being under the influence of employer or people related to employer for non-work life.	
	Strong indicators of penalty (or menace of penalty)	
	Denunciation to authorities	
	Confiscation of identity papers or travel documents	
	Confiscation of mobile phones	
	Further deterioration in working conditions	

	Isolation	Geographic isolation is inherent in physical structure of <i>jermals</i> .
	Locked in workplace or living quarters	
	Sexual violence	
	Physical violence	Former workers detailed a high rate of violence.
	Other forms of punishment (deprivation of food, water, sleep, etc.)	Workers are deprived of fresh food and water, but this is not a means through which workers are punished for not performing specific tasks or otherwise bound to their employment.
	Violence against worker in front of other worker	
	Removal of rights or privileges (including promotion)	
	Religious retribution	
	Constant surveillance	Due to the small size and layout, workers are under constant surveillance.
	Withholding of assets (cash or other)	
	Withholding of wages	Workers are paid only at end of three month term. Former workers described a system in which workers were required to return or provide a replacement before they were paid their full wages.
	Threats against family members	
	Medium indicators of penalty (or menace of penalty)	
	Dismissal	

	Exclusion from future employment	
	Exclusion from community and social life	
	Extra work for breaching labor discipline	
	Financial penalties	
	Informing family, community or public about worker's current situation (blackmail)	

Indicators of impossibility of leaving employer for adults	Strong indicators of involuntariness	
	Reduced freedom to terminate labor contract after training or other benefit paid by employer	
	No freedom to resign in accordance with legal requirements	
	Forced to stay longer than agreed while waiting for wages due	
	Forced to work for indeterminate period to repay outstanding debt or wage advance	
	Strong indicators of	

	penalty (or menace of penalty)	
	Denunciation to authorities	
	Confiscation of identify paper or travel documents	
	Imposition of worse working conditions	
	Locked in work or living quarters	Geographic isolation is inherent in physical structure of <i>jermals</i> .
	Sexual violence	
	Physical violence	See 'Work and life under duress.'
	Other forms of punishment (deprivation of food, water, sleep, etc.)	
	Removal of rights or benefits (including promotion)	
	Religious retribution	
	Under constant surveillance	Supervisors monitor the workers to ensure they do not try to escape.
	Violence imposed on other workers in front of all workers	
	Withholding of assets (cash or other)	
	Withholding of wages	See 'Work and life under duress.'
	Threats against family members (violence or	

	loss of jobs)	
	Medium indicators of penalty or menace or penalty	
	Dismissal	
	Exclusion from future employment	
	Exclusion from community and social life	
	Extra work for breaching discipline	
	Financial penalties	
	Informing family, community or public about worker's current situation (blackmail)	

Appendix IV: Summary of Presence of ILO Indicators of Forced Labor among Respondents in Small-Boat Anchovy Fishing in North Sumatra Province

As discussed in Methodology, Verité analyzed its findings with respect to the indicators of forced labor presented in the ILO's 2011 publication, *Hard to See, Harder to Count: Survey Guidelines to Estimate Forced Labour of Adults and Children*. A chart of these indicators follows.

Adults

		Present
Indicators of unfree recruitment of adults	Strong Indicators of Involuntariness	
	Tradition, birth (birth/descent into 'slave' or bonded status)	
	Coercive recruitment (abduction, confinement during the recruitment process)	
	Sale of the worker	
	Recruitment linked to debt (advance or loan)	
	Deception about the nature of the work	
	Medium Indicators of Involuntariness	
	Deceptive recruitment (regarding working conditions, content, or legality of employment contract, housing and living conditions, legal documentation or acquisition of legal migrant status, job location or employer,	

	wages/earnings)	
	Deceptive recruitment through promises of marriage	
	Strong Indicators of Menace of Penalty	
	Denunciation to authorities	
	Confiscation of identity papers or travel documents	
	Sexual violence	
	Physical violence	
	Other forms of punishment	
	Removal of rights or privileges (including promotion)	
	Religious retribution	
	Withholding of assets (cash or other)	
	Threats against family members	
	Medium Indicators of Menace of Penalty	
	Exclusion from future employment	
	Exclusion from community and social life	
	Financial penalties	
	Informing family, community, or public about worker's current situation (blackmail)	

Indicators of work and life under duress of adults	Strong indicators of involuntariness	
	Forced overtime (beyond legal limits)	Due to the seasonal nature of the work, during high seasons, workers may work long hours, but this does not serve to bind them to their employment.
	Forced to work on call (day and night)	
	Limited freedom of movement and communication	Limited freedom of movement while on board, but restriction lifted once returned to port.
	Degrading living conditions	
	Medium indicators of involuntariness	
	Forced engagement in illegal activities	
	Forced to work for employer's private home or family	
	Induced addiction to illegal substances	
	Induced or inflated indebtedness (by falsification of accounts, inflated prices for goods/services purchased, reduced value of goods/services produced, excessive interest rates on loans, etc.)	Workers may take loans in the form of 'advance' payment against their wages, leaving them indebted to their employer. However, taking these advances is voluntary, and the terms are such that the debt is not inflated through high interest rates, etc.
	Multiple dependency on employer (jobs for relatives, housing, etc.)	

	Pre-existence of dependency relationship with employer	
	Being under the influence of employer or people related to employer for non-work life	
	Strong indicators of penalty (or menace of penalty)	
	Denunciation to authorities	
	Confiscation of identity papers or travel documents	
	Confiscation of mobile phones	
	Further deterioration in working conditions	
	Isolation	Isolation is somewhat inherent in the nature of fishing, particularly for multi-day trips.
	Locked in workplace or living quarters	
	Sexual violence	
	Physical violence	
	Other forms of punishment (deprivation of food, water, sleep, etc.)	
	Violence against worker in front of other worker	
	Removal or rights or privileges (including promotion)	
	Religious retribution	
	Constant surveillance	
	Withholding of assets (cash or	

	other)	
	Withholding of wages	Due to the nature of fishing, if there is no catch, fishers may not get paid. However, this is an accepted condition of the work, and research did not determine that it is used to bind workers to their employment.
	Threats against family members	
	Medium indicators of penalty (or menace of penalty)	
	Dismissal	
	Exclusion from future employment	
	Exclusion from community and social life	
	Extra work for breaching labor discipline	
	Financial penalties	
	Informing family, community or public about worker's current situation (blackmail)	
	Strong indicators of involuntariness	
Indicators of impossibility of leaving employer for adults	Reduced freedom to terminate labor contract after training or other benefit paid by employer	
	No freedom to resign in accordance with legal requirements	
	Forced to stay longer than agreed while waiting for wages due	
	Forced to work for indeterminate period to repay outstanding debt or	Because workers may be indebted to the admiral, there is room for potential exploitation. However, research did not uncover that debt is used to tie workers to their jobs.

	wage advance	
	Strong indicators of penalty (or menace of penalty)	
	Denunciation to authorities	
	Confiscation of identify paper or travel documents	
	Imposition of worse working conditions	
	Locked in work or living quarters	
	Sexual violence	
	Physical violence	
	Other forms of punishment (deprivation of food, water, sleep, etc.)	
	Removal of rights or benefits (including promotion)	
	Religious retribution	
	Under constant surveillance	Inherent to fishing industry. While on board a fishing vessel, workers are under the surveillance of admirals and supervisors. However, this surveillance ends when they arrive back at port.
	Violence imposed on other workers in front of all workers	
	Withholding of assets (cash or other)	
	Withholding of wages	Please see 'Work and life under duress.'
	Threats against family members (violence or loss of jobs)	
	Medium indicators of penalty or	

	menace or penalty	
	Dismissal	
	Exclusion from future employment	
	Exclusion from community and social life	
	Extra work for breaching discipline	
	Financial penalties	
	Informing family, community or public about worker's current situation (blackmail)	

Children

Indicators of unfree recruitment in children		Present
	Indicators of involuntariness	
	Child is born into a bonded family and is forced to work for his or her parents' employer	
	Recruitment as collateral for a loan given to parents or relatives	
	Recruitment as part of the employer's agreement to employ the parents or relatives	
	Recruitment in advance for a cash advance or loan to parents	
	Child sent to work for someone else by a previous employer without consent of the child or parents	
	Recruitment of the child in the context of a tradition perpetuated by those in power	
	Child kidnapped, taken by force	
	Deception about: access to education, living conditions, frequency of visits to or by parents, nature of the job, location of	

	the job, employer, wages, quantity of work, social benefits	
	Indicators of penalty (or menace of penalty)	
	Family would lose benefits (land, housing, etc).	
	Other family members would lose their job	
	Exclusion of child from future employment	
	Violence against child	
	Violence against family members	
	Exclusion of family members from access to loans	
	Isolation	Please see 'Impossibility of leaving employer.'
	Threats against child or family members	
Work and life under duress	Indicators of involuntariness	
	Forced overtime	Depending on length of trips, children may work long hours. This appears to be particularly true for children who work in workshops in the supply chain. (Please see Workshop Appendix for more details.)
	Forced to work on call (day and night)	
	Forced to work for the employers' private home	
	Forced to work when sick or injured	
	Forced to engage in illicit activities	

	Forced to perform hazardous tasks without protection	
	Forced to take drugs, alcohol, illegal substances	
	Forced to engage in illicit activities	
	Forced to engage in sexual acts	
	Limited freedom of movement outside the workplace	
	No possibility of leaving the living quarters	
	No freedom to talk to other children or adults	
	No freedom to contact parents, family, friends	
	No possibility of practicing own religion	
	Employer decides on matters relating to child's private life (marriage, education, health, religion)	
	Food, clothing, and housing provided by employer in lieu of a wage	
	Degrading living conditions	
	Indicators of Penalty (or menace of penalty)	
	Indicators of penalty (or menace of penalty)	
	Physical violence	There were isolated (approximately 1-2 reports) of physical violence perpetrated on children.
	Psychological violence	Children reported verbal harassment (yelling and scolding) by admirals and supervisors.

	Sexual violence	
	Punishment (deprivation of food, water, sleep, etc)	
	Fines	
	Wage deductions	Like adults, children reported that they do can take advance wages from the admiral. Advances are then deducted from earnings.
	Threats of dismissal	
	Threats against family	
	Punishment/violence inflicted on other children in front of child	
	Locked in living quarters	
	Constant surveillance	
	Isolation	
	Prohibition on contact with parents and family members	
	Retention of identity papers	
	Withholding of wages	Like adults, children may not be paid if there is no fish caught during a trip.
Impossibility of Leaving Employer for Children	Indicators of involuntariness	
	Limited or no freedom to leave employer	
	Indicators of penalty (or menace of penalty)	
	Isolation	Like adults, while children are onboard a vessel, they do not have an opportunity to leave.
	Confinement	
	Under constant surveillance	While onboard vessel, children

		are under constant surveillance.
	Family would lose benefits (land, housing, etc.)	
	Exclusion from future employment	
	Exclusion of family members from future employment	
	Threats or violence against child	
	Threats or violence against family members	
	Exclusion of family members from access to loans	
	Punishment (deprivation of food, water, sleep, etc)	
	Withholding of wages	See indicator under 'work and life under duress.'
	Unfulfilled promises of education, vocational training, etc	
	Threat of denunciation to authorities	
	Confiscation of identity papers	
	Punishment inflicted on child in front of other children	
	Threat of further deterioration of working conditions	
	Threat of forced commercial exploitation	

Appendix V: Summary of Presence of ILO Indicators of Forced Labor among Respondents in Blast Fishing in South Sulawesi Province

As discussed in Methodology, Verité analyzed its findings with respect to the indicators of forced labor presented in the ILO's 2011 publication, *Hard to See, Harder to Count: Survey Guidelines to Estimate Forced Labour of Adults and Children*. A chart of these indicators follows.

Adults

		Present
Indicators of un-free recruitment of adults	Strong Indicators of Involuntariness	
	Tradition, birth (birth/descent into 'slave' or bonded status)	
	Coercive recruitment (abduction, confinement during the recruitment process)	
	Sale of the worker	
	Recruitment linked to debt (advance or loan)	
	Deception about the nature of the work	
	Medium Indicators of Involuntariness	
	Deceptive recruitment (regarding working conditions, content, or legality of employment contract, housing and living conditions, legal documentation or acquisition of legal migrant status, job location or employer, wages/earnings)	
	Deceptive recruitment through promises of marriage	

	Strong Indicators of Menace of Penalty	
	Denunciation to authorities	
	Confiscation of identity papers or travel documents	
	Sexual violence	
	Physical violence	
	Other forms of punishment	
	Removal of rights or privileges (including promotion)	
	Religious retribution	
	Withholding of assets (cash or other)	
	Threats against family members	
	Medium Indicators of Menace of Penalty	
	Exclusion from future employment	
	Exclusion from community and social life	
	Financial penalties	
	Informing family, community, or public about worker's current situation (blackmail)	
Indicators of work and life under duress of adults	Strong indicators of involuntariness	
	Forced overtime (beyond legal limits)	While fishers may work long hours on some fishing voyages, this is not used as a means to bind them to their job.
	Forced to work on call (day and night)	
	Limited freedom of movement and communication	
	Degrading living conditions	

	Medium indicators of involuntariness	
	Forced engagement in illegal activities	Blast fishing is a de facto illegal activity, however, participation is not forced, and is not used to bind workers to their jobs.
	Forced to work for employer's private home or family	
	Induced addiction to illegal substances	
	Induced or inflated indebtedness (by falsification of accounts, inflated prices for goods/services purchased, reduced value of goods/services produced, excessive interest rates on loans, etc.)	Workers may borrow money from <i>juragang</i> and in fact, <i>juragangs</i> may be the only accessible source of capital within a community. However, research did not determine that <i>juragangs</i> exploited this debt to entrap workers.
	Multiple dependency on employer (jobs for relatives, housing, etc.)	
	Pre-existence of dependency relationship with employer	<i>Juragangs</i> act as community leaders and provide loans and capital.
	Being under the influence of employer or people related to employer for non-work life.	
	Strong indicators of penalty (or menace of penalty)	
	Denunciation to authorities	
	Confiscation of identity papers or travel documents	
	Confiscation of mobile phones	
	Further deterioration	

	in working conditions	
	Isolation	
	Locked in workplace or living quarters	
	Sexual violence	
	Physical violence	*Please see Indicators of Forced Child Labor Chart.
	Other forms of punishment (deprivation of food, water, sleep, etc.)	
	Violence against worker in front of other worker	
	Removal or rights or privileges (including promotion)	
	Religious retribution	
	Constant surveillance	
	Withholding of assets (cash or other)	
	Withholding of wages	
	Threats against family members	
	Medium indicators of penalty (or menace of penalty)	
	Dismissal	
	Exclusion from future employment	
	Exclusion from community and social life	Please see 'Pre-existence of dependency on employer' in 'Work and life under duress.'
	Extra work for breaching labor discipline	
	Financial penalties	
	Informing family, community or public about worker's current situation (blackmail)	

Indicators of impossibility of leaving employer for adults	Strong indicators of involuntariness	
	Reduced freedom to terminate labor contract after training or other benefit paid by employer	
	No freedom to resign in accordance with legal requirements	
	Forced to stay longer than agreed while waiting for wages due	
	Forced to work for indeterminate period to repay outstanding debt or wage advance	
	Strong indicators of penalty (or menace of penalty)	
	Denunciation to authorities	
	Confiscation of identify paper or travel documents	
	Imposition of worse working conditions	
	Locked in work or living quarters	
	Sexual violence	
	Physical violence	
	Other forms of punishment (deprivation of food, water, sleep, etc.)	
	Removal of rights or benefits (including promotion)	
	Religious retribution	
	Under constant surveillance	
	Violence imposed on other workers in front of all workers	

	Withholding of assets (cash or other)	
	Withholding of wages	
	Threats against family members (violence or loss of jobs)	
	Medium indicators of penalty or menace or penalty	
	Dismissal	
	Exclusion from future employment	
	Exclusion from community and social life	
	Extra work for breaching discipline	
	Financial penalties	
	Informing family, community or public about worker's current situation (blackmail)	

Children

		Present
Indicators of unfree recruitment in children	Indicators of involuntariness	
	Child is born into a bonded family and is forced to work for his or her parents' employer	It may be culturally expected that children work for their parents' <i>juragang</i> , but researchers did not determine that children were forced to do so.
	Recruitment as collateral for a loan given to parents or relatives	
	Recruitment as part of the employer's agreement to employ the parents or relatives	
	Recruitment in advance for a cash advance or loan to parents	
	Child sent to work for someone else by a previous employer without	

	consent of the child or parents	
	Recruitment of the child in the context of a tradition perpetuated by those in power	<i>Juragangs</i> are traditionally the powerful individuals within the community, but researchers did not determine that children are compelled to work by force.
	Child kidnapped, taken by force	
	Deception about: access to education, living conditions, frequency of visits to or by parents, nature of the job, location of the job, employer, wages, quantity of work, social benefits	
	Indicators of penalty (or menace of penalty)	
	Family would lose benefits (land, housing, etc).	Families may have multiple levels of dependency on their <i>juragang</i> . However, researchers did not find evidence that this compels children to work.
	Other family members would lose their job	
	Exclusion of child from future employment	
	Violence against child	
	Violence against family members	
	Exclusion of family members from access to loans	
	Isolation	Please see 'Impossibility of leaving employer.'
	Threats against child or family members	

Work and life under duress	Indicators of involuntariness	
	Forced overtime	Depending on length of trips, children may work long hours. This appears to be particularly true for children who work in workshops in the supply chain.
	Forced to work on call (day and night)	
	Forced to work for the employers' private home	
	Forced to work when sick or injured	
	Forced to engage in illicit activities	
	Forced to perform hazardous tasks without protection	
	Forced to take drugs, alcohol, illegal substances	
	Forced to engage in illicit activities	
	Forced to engage in sexual acts	
	Limited freedom of movement outside the workplace	
	No possibility of leaving the living quarters	
	No freedom to talk to other children or adults	
	No freedom to contact parents, family, friends	
	No possibility of practicing own religion	
	Employer decides on matters relating to child's private life (marriage, education, health, religion)	
	Food, clothing, and housing provided by employer in lieu of a wage	
	Degrading living conditions	

	Indicators of Penalty (or menace of penalty)	
	Indicators of penalty (or menace of penalty)	
	Physical violence	Children reported witnessing and experience physical violence such as slapping as punishment.
	Psychological violence	Children reported verbal harassment (yelling and scolding) by supervisors.
	Sexual violence	
	Punishment (deprivation of food, water, sleep, etc)	
	Fines	
	Wage deductions	Like adults, children reported that they do can take small loans from the <i>juragang</i> . This does not appear to bind them to work.
	Threats of dismissal	
	Threats against family	
	Punishment/violence inflicted on other children in front of child	See 'Physical violence.'
	Locked in living quarters	
	Constant surveillance	
	Isolation	
	Prohibition on contact with parents and family members	
	Retention of identity papers	
	Withholding of wages	Like adults, children may not be paid if there is no fish caught during a trip.

Impossibility of Leaving Employer	Indicators of involuntariness	
	Limited or no freedom to leave employer	
	Indicators of penalty (or menace of penalty)	
	Isolation	Like adults, while children are onboard a vessel, they do not have an opportunity to leave.
	Confinement	
	Under constant surveillance	While onboard a vessel, children are under constant surveillance.
	Family would lose benefits (land, housing, etc.)	
	Exclusion from future employment	
	Exclusion of family members from future employment	
	Threats or violence against child	
	Threats or violence against family members	
	Exclusion of family members from access to loans	
	Punishment (deprivation of food, water, sleep, etc)	
	Withholding of wages	See indicator under 'Work and life under duress.'
	Unfulfilled promises of education, vocational training, etc	
	Threat of denunciation to authorities	
	Confiscation of identity papers	

	Punishment inflicted on child in front of other children	
	Threat of further deterioration of working conditions	
	Threat of forced commercial exploitation	

Appendix VI: Survey Tools

*Note that these were guide questions. Exact phrasing of questions may change depending on the context.

Jermal - Current Worker

1. Demographics
 - a. How old are you?
 - b. What village are you from?
 - c. How much education do you have?
 - d. Ethnicity?
2. Recruitment/Entry into Sector
 - a. How long have you been working here?
 - b. Did someone recruit you? Who?
 - c. Do you have previous work experience?
 - d. Do you plan to stay on the *jermal*?
3. Wages
 - a. What is your monthly salary?
4. Health and Safety
 - a. Do/Have you experienced illness because of your work? What?
 - b. Do/Have you experienced injury because of your work?

For interviewer:

1. Did this worker appear?
 - a. Shy
 - b. Hesitant
 - c. Closed
 - d. Curious
 - e. Physically injured? (i.e. bruising)
2. Were you able to interview worker away from supervisor?

Jermal - Supervisor

1. Demographics
 - a. How old are you?
 - b. How much education do you have?
 - c. What is your ethnicity?
 - d. What village are you from?
2. Entry
 - a. How long have you worked on *jermals*?

- b. Do you have other work experience?
 - c. How did you get this job?
 - d. Why do you do this work?
 - e. Are there things you don't like about this work?
- 3. Wages
 - a. How much are you paid?
 - b. Do you receive a bonus?
- 4. Other
 - a. What would you do if a worker got sick?
 - b. What would you do if a worker wanted to leave?
 - c. How do you get to the *jermal*? Transportation

For the interviewer

- 1. Describe the supervisor's attitude. Is he:
 - a. Curious
 - b. Uncomfortable
 - c. Open
 - d. Closed

Researcher observation:

- How many hours did it take to get to the *jermal*?
- Describe the structure of the *jermal*
 - o Condition of roof, base, logs, etc
 - o Does the *jermal* appear stable?
- Are there bathrooms?
- Sleeping areas?
- What foods are kept on board? How much?
- How much fresh water is available?
- Are first aid materials available?
- Are life vests available?
- Are communication devices available?

***Jermal* - Former Worker**

- 1. Demographics
 - a. How old are you?
 - b. What village are you from?
 - c. What year did you start work (on *jermal*)?
 - d. How old were you when you started work?
 - e. How long did you stay on *jermals*?
- 2. Entry into Sector/Recruitment

- a. Did somebody recruit you?
 - i. If so, who?
 - ii. What was your relationship to that person?
 - b. Did you have previous experience?
 - c. Were other friends/children from your village on the *jermal* with you?
 - d. Did you have any information about *jermal* conditions before you started?
 - i. Was that information correct?
 - ii. Did anything surprise you when you arrived on the *jermal*?
 - e. Did your parents receive money from your recruiter?
3. Wages
- a. How much were you paid? How did payment mechanisms work?
 - b. Did you have information about salary before you started?
 - i. Was that information correct?
 - c. When were you paid/on what schedule?
 - i. Why did the supervisors pay workers on that schedule?
 - d. Were there deductions from your wages?
 - i. How much?
 - ii. For what?
 - iii. Did you understand the deduction system?
 - e. Did you ever not receive your wages?
4. Hours
- a. How much did you work on a normal day?
 - b. What were work patterns like? (seasons, tides, etc)
 - c. How much time to rest did you have most days?
 - d. Did you get holidays?
5. Abuse and Harassment
- a. Were you ever verbally scolded/yelled at?
 - i. Why?
 - b. Were you ever punished in another way?
 - i. What happened?
 - c. Did you ever experience sexual abuse?
 - i. Did anyone you know experience this?
6. Ability to terminate
- a. Were you able to leave when you wanted?
 - b. Did you ever try to leave/escape?
 - i. Why?
 - ii. How?
 - iii. Were you successful?
 - c. Did anyone else you know try to escape?
 - i. Why?

- ii. How?
- iii. Was he successful?

For interviewer:

- 7. Did this worker appear?
 - a. Shy
 - b. Hesitant
 - c. Closed
 - d. Curious
 - e. Physically injured? (i.e. bruising)
- 2. Where did the interview take place?

Small-Boat Fishing - Adult

- 1. Demographics
 - a. Where are you from?
 - b. How old are you?
 - c. Are you married?
 - d. Do you have children?
 - e. How much education have you completed?
- 2. Entry into Sector/Recruitment
 - a. How long have you been fishing?
 - b. Have you tried other jobs?
 - i. What?
 - c. How did you get this job?
 - d. Why did you decide to take this job?
 - e. Do your friends/family members also do this job?
 - f. Did you have other choices in choosing a job?
 - g. Do people need any special qualifications/skill to be a fisher?
 - h. Do you have your own boat?
 - i. Do you have to pay fees to your boss?
- 3. Hours
 - a. How long are fishing journeys?
 - b. How often?
 - c. Describe seasonality.
- 4. Health and Safety
 - a. Do you have any fears?
 - b. Concerns?
 - c. Injuries/Illness?

5. Abuse and Harassment
 - a. Have you or your family ever been threatened?
6. Debt
 - a. Do you borrow money?
 - i. From who?
 - ii. Currently in debt?
1. How much?
 - iii. How do you decide who to borrow from?
 - iv. Do you have a choice? Another option to borrow money from?
 - v. (If you borrow from boss), does he suggest it?
 - vi. For what?/why?
 - vii. In cash/other?
 - viii. Is there interest?
 - ix. Do you provide collateral?
 - x. Is there a written agreement?
 - xi. Is there a time limit?
1. What happens if you don't pay back in time?
2. What if you stopped paying before paying back all of the debt?
 - xii. How do you repay?
 - xiii. Do you regularly pay off debt or are you usually in debt?
7. Ability to leave employer/terminate employment
 - a. What would happen if you moved to another boss?

Small-Boat Fishing – Child

1. Demographics
 - a. How old are you?
 - b. What village are you from?
 - c. How much school have you completed?
 - d. Do you have a specific job? (Do you work on the boats? In the workshops? What do you do?)
2. Recruitment/Entry into Sector
 - b. When did you start?
 - c. How long have you been doing this job?
 - d. Do your parents also work in this job?
 - i. How many generations before have worked in this job?
 - e. Do you hope that YOUR children do this job?
 - i. Why/why not?
 - f. Did someone recruit you?
 - i. Who

- g. Did your parents receive money when you were recruited? Was there another agreement or relationship? Between your parents and the recruiter?
- h. Did you have information about this job before you started?
- i. Was this information correct?
 - i. Are wages paid as you were first promised?
- j. Is your parent a fisherman?
- 4. Health and Safety
 - a. Do you ever feel afraid?
 - i. Why?
 - b. Do you think your job is safe?
 - c. Have you ever been injured/in an accident?
- 5. Ability to Leave Employer
 - a. Could you leave if you wanted to?
 - i. Why/why not?
 - b. Have any of your friends left?
 - i. Why?
 - ii. What happened to him?
 - c. Do you want to leave?
 - i. Why/why not?
- 6. Hours
 - a. How many hours do you work per day?
 - b. How many days per week?
 - c. Seasonality?
 - d. Do you get days off?
- 7. Harassment and Abuse
 - a. Have you ever been scolded/yelled at?
 - i. Why?
 - b. Have you ever been punished/disciplined in another way? (hit?)
 - i. Why?
 - ii. What happened?
 - c. Have you or anyone you know experienced sexual harassment?
- 8. Wages
 - a. How much are you paid? How do your payments/wages work?
 - b. Are any deductions taken?
 - i. For what?
 - ii. How much?
 - iii. Was deduction agreed on?
 - c. Have your wages ever been withheld?
 - d. Why?

9. Debt

- a. Do you owe any money?
 - i. How much?
 - ii. To who?
 - iii. Why do you take loans?
 - iv. How do you repay your debt?
 - v. What happens if someone doesn't repay debt?

Blast Fishing – Adult

1. Demographics

- a. How old are you?
- b. What village are you from?
- c. Are you married?
- d. Do you have children?
- e. How much education do you have?

2. Entry into Sector/Recruitment

- a. How long have you worked in this sector?
- b. Have you always been a fisherman/Any previous work experience?
- c. How did you get this job?
- d. What made you want this job?
- e. Do other friends/family work in this kind of fishing?
- f. Why do you do this job?
- g. Would you want your children to do this work?
- h. Are there any special requirements you need to do this work?

3. Wages/Deductions

- a. Do you have to pay any fees?
- b. Who owns the boat?
- c. How much do you earn?
- d. How often are you paid?

4. Hours

- a. How many hours do you work in a normal day?
- b. How many days a week?
- c. Describe seasonality.

5. Debt

- a. Do you borrow money?
 - i. From whom?
 - ii. How much is your debt?
 - iii. Do you borrow cash or other goods (i.e. food)
 - iv. Why do you borrow?

- v. How did you decide to borrow from this person? Did your boss suggest that you borrow money? (if debt is to boss)
 - vi. Are there other options?
 - vii. How much is the interest?
 - viii. How do you pay it back?
 - ix. After you pay back your debt, do you still receive a salary? (Or are you always working only to pay off previous debt?)
 - x. Did you have to put up collateral when you took out the loan?
 - xi. Is there a loan duration?
6. Ability to Leave Employer/Terminate Employment
- a. If you were to leave, how would your boss react?
 - b. Are you aware of any situations where a worker left without repaying his debt?
 - i. What happened?
 - c. Are you afraid of anything?
 - d. Have you/your family ever been threatened?
 - i. By who?
 - ii. Details of threat?
 - e. When you're on board, can you go back to the mainland?

Blast Fishing – Child

- 1. Demographics
 - a. How old are you?
 - b. What village are you from?
 - c. What was the last grade/level of school you finished?
 - d. Are you assigned any specific tasks?/What's your job on the boat?
- 2. Recruitment/Entry into Sector
 - a. When did you start?
 - b. How long have you been doing this job?
 - c. Do your parents also work in this job?
 - i. How many generations before have worked in this job?
 - d. Do you hope that YOUR children do this job?
 - i. Why/why not?
 - e. Did someone recruit you?
 - i. Who
 - f. Did your parents receive money when you were recruited? Was there another agreement or relationship? Between your parents and the recruiter?
 - g. Did you have information about this job before you started?
 - h. Was this information correct?

- i. Are wages paid as you were first promised?
- 3. Health and Safety
 - a. Do you have any fears about your job?
 - i. What?
 - b. Do you think your job is safe?
 - c. Have you ever experienced an accident?
 - d. Have you been injured?
 - e. Do you know of anyone who has been paralyzed?
- 4. Hours
 - a. How many hours do you work on a normal day?
 - b. How many days a week do you work?
 - c. Describe seasonality.
- 5. Harassment and Abuse
 - a. Have you ever been scolded/yelled at?
 - i. Why?
 - b. Have you ever been punished/disciplined in another way? (hit?)
 - i. Why?
 - ii. What happened?
 - c. Have you or anyone you know experienced sexual harassment?
- 6. Wages?
 - a. How much do you get paid? How does your salary/earning work?
 - b. Are there any deductions from your pay?
 - i. How much?
 - ii. Do you know what that money was deducted for?
 - iii. Was that agreed to in advance?
 - c. Do you ever not receive your wages when you're supposed to?
- 7. Ability to Leave Employer?
 - a. Could you leave if you wanted to?
 - i. Why/why not?
 - b. Have any of your friends left?
 - i. Why?
 - ii. What happened to him?
 - c. Do you want to leave?
 - i. Why/why not?
- 8. Debt
 - a. Do you owe any money?
 - i. How much?
 - ii. To who?
 - iii. How do you repay your debt?
 - iv. Is someone's debt passed down to their kin (i.e. if they die)?

QUESTION FOR INTERVIEWER

Did you have difficulty in interviewing the informant? Why?

What is your general impression of the reliability of the informant?

ENDNOTES

¹ Food and Agriculture Organization. Status and Potential Fisheries and Aquaculture in Asia and the Pacific. 2008. <http://www.fao.org/docrep/011/i0433e/i0433E04.htm>

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² Article 3 of ILO Convention No. 182 defines the worst forms of child labor as follows: "(a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict; (b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances; (c) the use, procuring or offering of a child for illicit activities, in particular for the production and trafficking of drugs as defined in the relevant international treaties; (d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children."

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¹¹ Illegal-Fishing.info, *Indonesia*, http://www.illegal-fishing.info/sub_approach.php?approach_id=19&subApproach_id=112

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⁹⁰ A rapid appraisal is an intensive qualitative research technique, commonly used to access rural, disadvantaged, or developing communities or populations facing acute crisis (such as armed conflict or environmental disaster), that gathers existing information (primarily through a literature review) and the knowledge of the community under study (primarily through key interviews, focus groups, and/or participatory research) in order to gain a basic understanding of major issues in a short period of time.

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⁹² There are three primary types of illegal fishing practiced in South Sulawesi: cyanide fishing, blast fishing, and trawl-net fishing. All three have been outlawed because of the degradation of coral-reef habitat that accompanies these fishing practices, and the consequent depletion of fish stocks that follows. Blast fishing was selected for the research because the materials necessary for blast fishing are somewhat more difficult to obtain, and more expensive, than those for either trawl-net or cyanide fishing. Therefore it was deemed by researchers and the experts they consulted that the patron-client reliance, and the potential vulnerability for forced labor, would be likely more pronounced in blast fishing.

⁹³ Current jermal worker defined here as those workers who were interviewed while they were engaged in work on jermals.

⁹⁴ Former jermal workers defined as those who were interviewed off of jermals, and are not currently engaged in jermal work, but had participated in jermal work in the past.

⁹⁵ Marion Glaser, et al., "Whose Sustainability? Top-down Participation and Emergent Rules in Marine Protected Area Management in Indonesia," *Marine Policy*, 2010, vol. 34, issue 6, pages 1215-1225.

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¹⁰³ In fact, during one trip out to a *jermal*, a Verité researcher was knocked overboard into the open ocean while climbing up the rope ladder to the platform. Fortunately, she was wearing a lifejacket and was rescued quickly and without injury. Her camera, recorder and cell phone – and the research data from that day that they contained – were all lost. Fortunately, other researchers that day had also been photographing and taking notes.

¹⁰⁴ International Labour Office, *Hard to See, Harder to Count: Survey Guidelines to Estimate Forced Labour of Adults and Children*, 2011.

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¹⁰⁶ After the data was categorized according to the 2005 ILO indicators, Verité conducted a secondary classification exercise based on new guidelines for surveying forced labor, which were issued in Dec. 2011 (*Hard to see, harder to count: Survey guidelines to Estimate Forced Labour of Adults and Children*) in order to consider the data within an updated standard framework. However, because the study was not designed or implemented with this newer framework in mind, the study may not have captured all the data that would be relevant to this analysis.

¹⁰⁷ Technically, there are two methods of fishing described as 'platform' fishing in Indonesia. The first is the *jermal* method of fishing, in which anchovy passing under the platform are pulled up in nets. A second, passive method takes place on platforms known as *ambai* which are built closer to shore. On *ambai*, a fisherman (who is usually the owner) hangs net, returns to shore, and then returns to the *ambai* again later to empty his nets. The *ambai* fishermen return home each day. *Jermal* fishing is the only type of platform fishing discussed in this report as the workers on *jermal* platforms are hired workers who are isolated at sea for long periods of time.

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¹¹⁵ Taufik Alwie et al., "Potret Buram Buruh Bawah Umur," *Gatra* No. 34, July 2009, <http://www.gatra.com/2009-07-12/artikel.php?id=128152> (accessed August 23, 2009).

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¹¹⁷ ILO IPEC "Eliminating child labour in the jermal fishing industry (Indonesia)" 2004.

¹¹⁸ Researchers found that current workers on *jermals* were closed and cautious in answering questions. Further, because of the presence of their supervisor, interviews had to be kept brief, and interviewers did not have an opportunity to follow up on potentially interesting lines of questioning, such as why certain workers had returned to the harsh conditions of *jermals* over several years.

¹¹⁹ Lena Westlund et al., *FAO-ILO Good Practice Guide for Addressing Child Labour in Fisheries and Aquaculture: Policy and Practice*, Food and Agriculture Organization—International Labour Organization, December 2011, ftp://ftp.fao.org/FI/DOCUMENT/child_labour_FAO-ILO/child_labour_FAO-ILO.pdf.

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¹²¹ Observation and interviews

¹²² Pia Markannan, Dangers, delights and destiny on the sea: Fishers along the east coast of North Sumatra, Indonesia. *New Solutions: A Journal of Environmental and Occupational Health*. 2005. Vol 15, Issue 2.

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¹²⁶ Pia Markannan, Dangers, delights and destiny on the sea: Fishers along the east coast of North Sumatra, Indonesia. *New Solutions: A Journal of Environmental and Occupational Health*. 2005. Vol 15, Issue 2.

¹²⁷ Note that this includes eight child workers who do not work on the boat directly but perform other tasks such as working in anchovy workshops or storehouses on shore.

¹²⁸ Article 3 of ILO Convention No. 182 defines the worst forms of child labor as follows: "(a) all forms of slavery or practices similar to slavery, such as the sale and trafficking of children, debt bondage and serfdom and forced or compulsory labour, including forced or compulsory recruitment of children for use in armed conflict; (b) the use, procuring or offering of a child for prostitution, for the production of pornography or for pornographic performances; (c) the use, procuring or offering of a child for illicit activities, in

particular for the production and trafficking of drugs as defined in the relevant international treaties; (d) work which, by its nature or the circumstances in which it is carried out, is likely to harm the health, safety or morals of children.”

¹²⁹ JALA, The Advocacy Network for North Sumatra Fisherfolk, The Environmental Justice Foundation, *When Fishing Turns Deadly*, <http://www.ejfoundation.org/pdf/JALAstoptrawlenglish.pdf>.

¹³⁰ Trawl-fishing boats use large nets that trawl the ocean floor, indiscriminately catching all marine life and eco-systems in its path. JALA, The Advocacy Network for North Sumatra Fisherfolk, The Environmental Justice Foundation, *When Fishing Turns Deadly*, <http://www.ejfoundation.org/pdf/JALAstoptrawlenglish.pdf>.

¹³¹ Cyanide fishing uses potassium cyanide to capture valuable reef fish such as groupers and lobsters alive. Fishermen dive into the water with potassium cyanide solution in bottles and squirt it into the holes and crevices in the inlets between reefs. The cyanide stuns fishes, and the fishermen dive down, tear away at the live coral, and collect the fish from crevices in the reef.

¹³² L. Pet-Soede and M. V. Erdmann, (1998), *Blast Fishing in Southwest Sulawesi, Indonesia*. Naga, The ICLARM Quarterly, 1-6.

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