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Profiling Taiwanese Distant Water Vessel Owners: a missing link for a more ethical fishing supply chain

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November 2024



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Acknowledgements:

This report was produced by the Humanity Research Consultancy (HRC), funded and supported by Humanity United and the Freedom Fund.

This report has also benefited from the valuable input of many HRC staff members and external experts including Ame Sagiv, Sarah Mount, Eric Kasper, Valentina Casulli, and Theis Moustsen.

HRC extends its sincere gratitude to all vessel owners and the representatives of the Taiwan Tuna Association (TTLA), Taiwan Tuna Longline Association, and Taiwan Squid and Saury Association (TSSA) for contributing their time to participate in HRC's fieldwork and interviews. This report would not have been possible without the time and information generously provided by these individuals.

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To respect the privacy of vessel owners all vessel names and numbers have been deleted.

List of abbreviations

C188	Work in Fishing Convention, 2007 (No. 188)
CPC	Contracting Party, Cooperating non-Contracting Party, Entity and Fishing Entity
CSOs	Civil Society Organisations
DWFA	Distant Water Fishing Associations
EU	European Union
FA	Fisheries Agency
FIP	Fisheries Improvement Project
ILO	International Labour Organization
MOA	Ministry of Agriculture
NGOs	Non-governmental organisations
OFDC	(Taiwan) Overseas Fisheries Development Council
PAFCO	Pacific Fishing Company Pte Limited
RFMOs	Regional Fisheries Management Organisations
ROCNA	Taiwan National Fishermen's Association, ROC
TTLA	Taiwan Tuna Longline Association
TTPSA	Taiwan Tuna Purse Seiners Association
TTA	Taiwan Tuna Association
TSSA	Taiwan Squid and Saury Association
UN	United Nations

Table of Contents

Acknowledgements:	2
List of abbreviations	3
Executive summary	2
Graph 1: Illustration of the operating environment for vessel owners and an overview of report sections.	5
1. Introduction	6
1.1. Background of the research	6
1.2. Methodology	7
2. Distant water fishing industry in Taiwan	9
2.1. Different types and methods of fishing fleets	9
2.2. Introduction to the governance structure	12
2.3. The management of and policy direction towards the industry	13
3. Who are the Taiwanese distant water fishing vessel owners?	18
3.1. Segments of the industry and relevant distant water fishing associations	18
3.2. Types of vessel owners: fishing as a generational means of livelihood versus fishing as a commercial activity	21
3.3. Family-owned style and historical incidents of noncompliance in the industry	23
4. Challenges faced by Taiwanese vessel owners	25
4.1. Trading dynamics, limited market, and the lack of bargaining power	25
4.2. Recruitment practices resulting in exploitation against fishers	28
4.3. Fish quota limitation	31
4.4. Policies for reducing the number of vessels	35
5. Why vessel owners do what they do	37
5.1. Incentives and obstacles for improving the conditions of vessels	37
5.2. The gambling nature of fishing and costs of all kinds	42
5.3. The constant desire for stable and skilled crew	45
Conclusion	47
Appendix	50



Executive summary

This report is part of a larger effort to examine working conditions in the seafood industry by analysing the complex systemic conditions of global seafood supply chains. In this report, we explore the role played by vessel owners in the Taiwanese distant water fishing industry. We do not only consider owners' active role in shaping working conditions on board their vessels; we consider the pressures and incentives they face because of their position within wider systems – vis-a-vis government and societal actors as well as supply chain actors above and below them – such as fish traders and staffing agencies. This analysis aims to provide an objective view of who the owners are, what actions they typically take, and the reasons behind those actions.

Profile of the owners

The Taiwanese fishing industry is diverse, but the predominant forms of fishing are squid jigging (9.3% of vessels and 26.2% of workers) and tuna long-line fishing (86.5% of vessels and 67.76% of workers). Squid jigging vessels tend to operate in the Southern Atlantic (off the coast of Argentina) and the Western North Pacific oceans. The vessels tend to be larger, and the owners tend to be better capitalised. As a result, squid jigging vessels tend to have the latest technologies and better working conditions for workers. Amongst tuna longliners, there is a significant diversity – both in vessel size and the level of capitalisation. Many tuna long-line owners are small family companies who struggle to carry on their operations. Whereas bigger companies might more easily take on debt to make upgrades or cover losses for a poor fishing season, smaller ones have less margin for error. Larger companies may choose to avoid going to sea if they calculate that a trip would result in a loss. In contrast, smaller companies often have no choice but to go out, even at a loss, as they rely more directly on the income to cover their loans and personal expenses. Meaning in general, workers working on tuna longliners are more likely to face substandard conditions and a higher risk of exploitation onboard.

Overview of the main issues and arguments

The distant water fishing industry is crucial for Taiwan, and in the past, the government has supported it through various incentive schemes. However, as the global seafood industry has evolved, with increased international regulations to limit catches for biodiversity reasons, Taiwan's distant-water fishing industry now faces constraints on the quotas of fish that Taiwanese vessels are allowed to catch. The government of Taiwan has shifted its approach from protecting the fishing industry to incentivising many actors to get out of the industry in order to adjust to the reality of a smaller industry.

This intersects with the concern for better working conditions for fishers on those vessels. In recent years, there have been numerous instances of migrant fishers working in substandard conditions on Taiwanese distant water fishing vessels. While there is no excuse for labour abuses, it is also clear that policies designed to push owners out of the industry combine with difficult market conditions to make it difficult for owners to operate. Addressed in this report, some policies have incentivised owners to exit the industry through buy-backs, which should, in theory, provide struggling owners a way out (“let them off the hook” so to speak). However, the aggregate effect of these policies has been mixed, often trapping owners in the industry with debts and incentivising owners to cut corners as they continue to muddle through.

While the Taiwanese fishing industry sits within Taiwan’s national economic and policy priorities, it is also an integral global fish supply chain. As is common for actors within supply chains, Taiwanese vessel owners feel systemic pressure from both directions – actors higher up the supply chain try to cut into their profit margins, while rising costs from those lower in the chain add further strain. In this report, we consider these factors which squeeze owners, noting the dynamics which limit owners’ options and incentivise them to take protective responses. Again, as is typical in supply chain dynamics, this means they tend to attempt to pass the risks down the chain. For example, through delaying payments to workers or making limited efforts to protect workers. By developing a deeper and more detailed understanding of these systemic realities, we illuminate the mechanisms which may be altered through interventions, namely, policies and collective action.



Vessel owners in the supply chain face structural constraints on how and where they can sell their catches. They encounter exclusive barriers to accessing the largest markets, such as the USA and EU. As a result, they often sell to Japan for higher-value tuna or to intermediary buyer conglomerates, who have the ability to negotiate entry into these more exclusive markets. At the same time, economic conditions in Japan have reduced the demand for high-grade tuna. Furthermore, the buyers are increasingly taking the form of powerful conglomerates who can dictate the terms of sale due to their growing market dominance (with fewer, larger firms) as well as their integration into essential services (such as transshipment and storage). One of the few means by which owners might counter this would be collaboration to set a price floor, potentially through the industry associations most owners belong to. However, to date, this has not been effective, since we have observed owners struggle with collective action. Each individual owner feels pressure to defect from price floor efforts to ensure they can sell their catches ahead of others.

Owners experience decreased access to fish quotas and increasing costs of operation. Global fish quotas are tightly regulated to limit overfishing, and they are provided to fishing companies based partially on industry capacities. Reduced fish quotas put a hard cap on owners’ earning potential, as they cannot simply keep fishing to their maximum capacity to maximize earnings. Increased costs take multiple forms, with the greatest being increased fuel costs, pressure to upgrade vessels to keep up with industry refrigeration standards and working condition standards, and the costs associated with the recruitment of skilled workers. As additional requirements are put into place to ensure fair pay and good working conditions – which are important for securing workers’ rights and well-being – owners experience higher costs and greater risks. While we should make no apologies for insisting that owners not exploit their workers in the systemic context, we must understand that these pressures are felt as existential for owners and the operations of their businesses. Owners’ pressures from lower in the supply chain could be alleviated through policies and purchasing practices that effectively incentivise and enable vessel upgrades, reward and incentivise better pay to workers and support transparent and ethical recruitment processes for migrant workers.



Interaction with policies and regulations

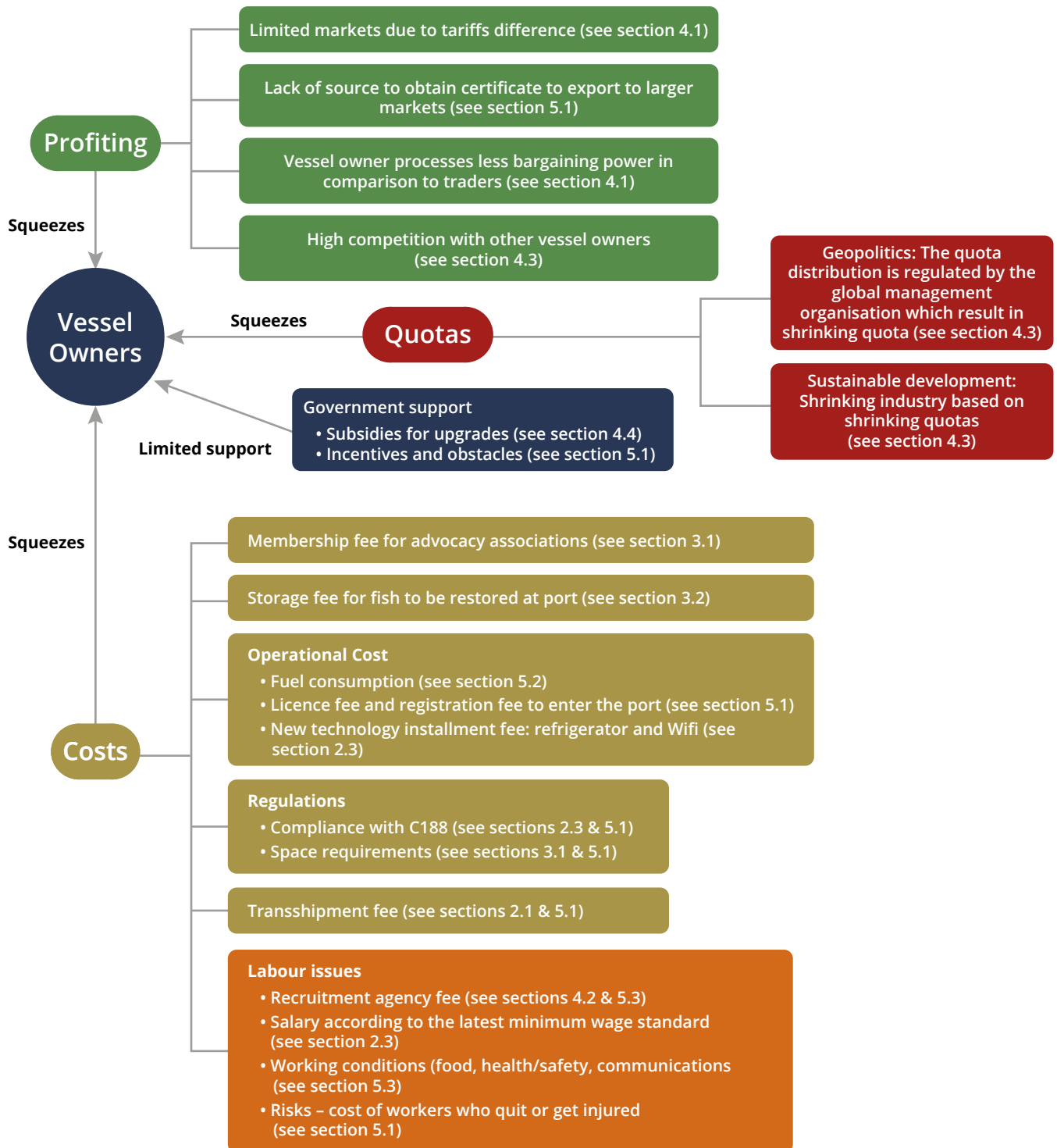
There is little the Government of Taiwan can do to increase fish quotas. Under these conditions, the government has attempted to ease the transition to a smaller fishing industry. Several key pieces of legislation have been passed over the years to provide subsidies for owners to exit the industry through vessel decommissioning. At the same time, they have offered support through loans for owners who remain to upgrade their vessels for greater efficiency. However, in many cases – especially with smaller companies – if owners take loans to make improvements but still struggle to earn, they can get trapped in debt which can prohibit them from exiting the industry. A similar dynamic has existed regarding fuel subsidies. Traditionally, the government supported vessel owners with cheaper fuel. However, incentivizing the use of fossil fuels is becoming less desirable as concerns grow over climate change. Fuel prices have also continued to rise even with incentives, and the government has placed limits on when, where, and how much fuel subsidies can be accessed.

The government could also play a more proactive role in negotiating more favourable trade conditions for Taiwanese firms. However, Taiwan faces limitations to its unique geopolitical position, as many countries either do not recognize Taiwan or are wary of establishing favourable trade relations with it.

Finally, while policies aiming to enforce ethical recruitment and minimal working standards for migrant workers exist, they have not been fully effective. Regulating recruitment agencies in the context of transnational migrant workers is incredibly challenging because of the reliance on a sprawling network of middlemen and agents operating largely in the informal sector, as well as the difficulties in coordinating enforcement between the countries involved. However, we have documented ways in which some owners manage to game the system through owning or collaborating with recruitment agencies. Further, enforcement of the “zero-fee” norm, where employers pay the costs of recruitment up front rather than workers - would go a long way toward improving working conditions. When workers take loans in order to undertake migration, they engage with their jobs from a position of much greater vulnerability, leading them to accept much worse working conditions. However, universal adoption of “zero-fee” recruitment would require the government to support the collective action of all owners, since if owners cannot be sure others are following the rules, they will strongly resist following the rules.

In this report, we have provided a profile of Taiwanese vessel owners in the distant water fishing industry. Vessel owners are essential to understand and engage with if we are concerned with reforming conditions for workers in supply chains. While labour exploitation and violations are unacceptable, in order to address the challenge we must engage with the systems that keep recreating those conditions. Owners who sometimes exploit workers are not simple caricatures or villains. They are people who experience their own challenges from their unique positions within the complex supply chain. By illuminating how the supply chain system pressures owners, we have identified key factors that tend to inhibit better treatment of workers. Additionally, we have noted some potential interventions that could reshape these dynamics, nurturing a supply chain that more effectively values and protects both workers and vessel owners.

Graph 1: Illustration of the operating environment for vessel owners and an overview of report sections.





1. Introduction

1.1. Background of the research

In the last 10 years, the Taiwanese distant water fishing industry has faced substantial scrutiny from domestic and international organisations such as Greenpeace¹, the Environmental Justice Foundation² (EJF), and Human Rights at Sea³ due to persistent allegations of forced labour conditions. In addition, Taiwan has been issued a yellow card by the European Union (EU) due to its failure to adhere to EU regulations meant to stop IUU fishing.⁴ These concerns prompted the government to amend three enactments of distant water fishing-related laws: the Act for Distant Water Fisheries, the Act to Govern Investment in the Operation of Foreign Flag Fishing Vessels, and the Fisheries Act in 2016.⁵ These are aimed at fostering sustainable practices within the industry. Despite these efforts, tangible progress has been limited, with ongoing reports of passport confiscation, wage deductions, insufficient access to necessities, excessive working hours, and verbal abuse among workers.

During the 1960s and 1970s, distant water fishing was regarded as a lucrative business in Taiwan. Vessel owners were able to generate profits amounting to millions of dollars (NTD) within just a few years of operation.⁶ In recent years, the industry's profit margins have been declining, and vessel owners have voiced grievances about the increased costs and risks associated with operating fishing vessels.⁷ As a result, a notable number of vessel owners have discontinued their businesses due to financial challenges.⁸ However, who these owners are, the circumstances in which they operate, and the reasons for their practices have so far been mostly overlooked in analyses of global fishing supply chains. There is an unacceptably high level of worker exploitation on board Taiwanese fishing vessels – for which owners are directly responsible. **However, realistic efforts to change these conditions must take into account a deep understanding of owners, the pressures and incentives they face within existing market structures, and how their existing and potential strategies fit into the wider complex system of global supply chains.**

¹ Greenpeace. (2019). *Seabound: The Journey to Modern Slavery on the High Seas*. Available online at: <https://www.greenpeace.org/static/planet4-southeastasia-stateless/2019/12/b68e7b93-greenpeace-seabound-book-c.pdf>

² Environmental Justice Foundation (EJF). (2020). *Illegal fishing and human rights abuses in the Taiwanese fishing fleet*. Available online at: <https://ejfoundation.org/resources/downloads/Taiwan-briefing-IUU-HR-2020-July.pdf>

³ Chiang, M. (2023). *Baseline Study on the Awareness and Application of Human Rights in Taiwan's Fishing Industry*. Human Rights at Sea. Available online at: https://www.humanrightsatsea.org/sites/default/files/media-files/2023-05/HRAS_Baseline_Study_on_the_Awareness_and_Application_of_Human_Rights_in_%20Taiwan%27s_Fishing_Industry_October_2019_SP_LOCKED.pdf

⁴ Murphy, S. (2015). 'EU gives a yellow card to Taiwan'. Retrieved from: <https://www.seafoodsource.com/news/environment-sustainability/eu-gives-yellow-card-to-taiwan>

⁵ Greenpeace. (2021). *What is IUU? How does it relate to Taiwan's fishery?*. Retrieved from: <https://www.greenpeace.org/taiwan/update/25225>

⁶ Chuang, S. (1983). *Distant Fishing Industry Sets Sail*. Retrieved from: <https://www.cw.com.tw/article/5103472>

⁷ Conversation with the Squid and Saury Association in Taiwan. Kaohsiung, November, 2022.

⁸ Statistics published by Taiwan Fisheries Agency has shown a steady decline of distant water fishing vessels operating.

This report analyses the role of Taiwanese vessel owners within the landscape of current knowledge about fishing supply chains and labour abuses. In doing so, this report addresses a significant gap in the literature around the relationship between vessel owners and workers, particularly the role owners play in shaping working conditions to exploit or mitigate worker vulnerabilities. To date, there has been very limited coverage of vessel owners, meaning we do not have a detailed picture of who they are, what motivates them to do what they do, or even how much variation there is among owners and their practices. Even the term “vessel owner” in the industrial fishing sector might be misleading – since vessels are generally owned by companies that consist of multiple shareholders, instead of artisanal fishing boats or cars owned by single specific owners. This is their demographics and roles need to be better understood. We know that owners, like workers, operate in the systemic context of global supply chains, rather than in isolation. They inevitably face constraints and experience conditions shaped by forces beyond their control.

By profiling owners in Taiwan’s distant fishing industry, this report sheds light on how owners are embedded within those wider systems, what constraints and opportunities they face as a result of their positions, and what patterns can be seen in their actions. In doing so, we consider power dynamics – not only the power of owners over workers but also the wider systems of power that condition and limit the agency of owners as they seek to operate their businesses. We explore various vessel types, each marked by unique operational dynamics, drawing on extensive interviews to develop a comprehensive profile of vessel owners. In our analysis, we draw on insights from owner profiles to identify opportunities to shift the prevailing system dynamics to improve working conditions in the industry and to nurture more ethical supply chains.

1.2. Methodology

This study is guided by three overarching questions to gain insights into the incentives, characteristics, and challenges within the Taiwanese distant water fishing industry:

- 1
 Who are the Taiwanese vessel owners, and what are the operational styles of their fishing companies?
- 2
 Why do vessel owners tend to adopt practices that lead to the specific working and living conditions on their vessels, and what does this tell us about the root causes behind the non-compliance of ILO labour standards by vessel owners?
- 3
 What are the key challenges and opportunities faced by owners of Taiwanese-flagged distant water fishing vessels for making profits and sustaining their businesses, as well as those arising from their interactions with various supply chain stakeholders?

To explore these questions, the team conducted both primary and secondary data collection, involving desk-based research, key informant interviews, and ethnographic observation. Our desk-based research relied on open-source information including databases published by the Taiwanese Government and the RMFOs, reports and articles in the media, company information published on the operators’ websites, and relevant NGO reports.

Our ethnographic observation included a variety of activities. We visited 14 Taiwanese ports from December 7th to December 13th, 2023, and came back to some of them multiple times afterwards in 2024. We participated in a two-day charity event supporting coastal and distant water fishers in Northern Taiwan. Additionally, we attended a conference on squid and saury fishing resource allocation, organized by the Fisheries Agency (FA) and the Taiwan Squid and Saury Association (TSSA), and an annual board meeting of TSSA to understand their internal decision-making considerations. Through our ethnographic observation, we had numerous informal conversations with numerous vessel owners, Indonesian fishers, one Vietnamese

captain, scholars, government officials, and employees from the Overseas Fisheries Development Council of the Republic of China (OFDC). These diverse interactions provided invaluable insights into the challenges and perspectives of different stakeholders in the Taiwanese fishing industry. The ports visited by the team include Aoti (澳底), Magang (馬崗), Nanfang Ao (南方澳), Wanli (萬里), Guihou (龜吼), Yeliu (野柳), Huanggang (磺港), Shimen (石門), Fuji (富基), Houcuo (後厝), Daner (淡二), Qianzhen (前鎮), Qujin (旗津), and Donggang (東港). Six structured interviews were also conducted during these visits.



Image 1. Ports visited by the HRC team during the ethnographic observations. Source: Google Maps, Sharlene Chen.

2. Distant water fishing industry in Taiwan

2.1. Different types and methods of fishing fleets

Taiwan hosts one of the largest tuna longline fleets in the world. Taiwan's distant fishing industry predominantly targets species such as tuna, swordfish, squid, and mackerel. Based on the qualitative data published by the Fisheries Agency, currently, 1,102 distant water vessels registered under the Taiwanese flag operate across the Pacific, Atlantic, and Indian Oceans.⁹ This includes 954 tuna longline vessels, 7 longline vessels¹⁰, 27 tuna purse seine vessels, 103 squid jigging vessels (target squid near the Falkland Islands during winter and saury in the northwestern Pacific Ocean), and 11 transport vessels (fish carriers). Not the number might vary slightly compared to the number that associations provided during the research period.

Different types of Taiwanese vessels

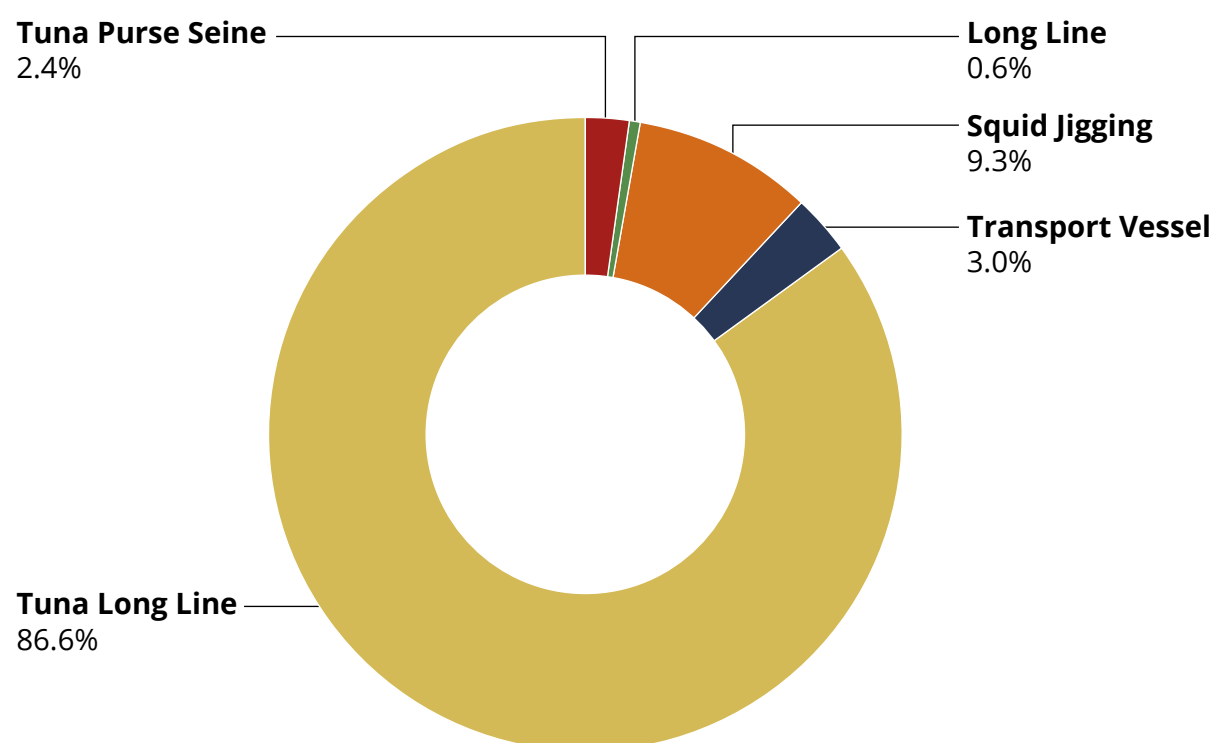


Figure 1. Different Types of Taiwanese Vessels. In contrast to “Tuna Long Line vessels,” Source: Taiwan Foreign Crew Interactive Service Platform,¹¹ graph created by HRC.

Size: Small Versus Large Scale Longliners

In Taiwan, “smaller longline vessels” generally refer to vessels weighing less than 100 tonnes, including CT3 vessels, weighing between 20 to 50 tonnes, and CT4 vessels, weight between 50 and 100 tonnes. These vessels focus on catching species such as yellowfin and halibut tuna, as well as swordfish,¹² and typically operate for periods ranging from five months to one year at sea. The smaller size of these vessels limits their capacity for both catch and crew, making them more reliant on transshipment services for offloading their harvests and resupplying, which allows them to remain at sea for longer periods. Since Taiwan first began building fibreglass-reinforced plastic (FRP) boats in the 1970s, most small-size tuna longline vessels are now built by FRP instead of wood,¹³ which improves the operational speed and expands the storage capabilities, including enhanced refrigeration systems.

⁹ Taiwan Foreign Crew Interaction Service Platform. (2024). Vessel information. Retrieved from https://www.happyfisherman.tw/page.php?menu_id=28 and Course.Harvest.Jan. Retrieved from <https://www.agriharvest.tw/archives/112123>

¹⁰ “Longline vessels” refer to longliners that catch a variety of species beyond just tuna.

¹¹ Taiwan Foreign Crew Interactive Service Platform.(2024). Retrieved from https://www.en.happyfisherman.tw/page.php?menu_id=28

¹² TTLA.(2024).The Origin of the Association. Retrieved from <http://www.ttl.org.tw/t-about.aspx>

¹³ (農學報導 臺灣製造F.R.P 漁船第一人 不怕失敗的黃明正). https://kmweb.moa.gov.tw/theme_data.php?theme=news&sub_theme=quality_farmer&id=55447

In the 1960s, small tuna longliners were constructed from wood and predominantly targeted large-head hairtail in the southern and eastern Pacific Ocean and the Indian Ocean.¹⁴ By the 1970s, through fisheries cooperation, the operational range of these vessels expanded to include the South Pacific regions such as Bali, Palau, Micronesia, the Marshall Islands, and Kiribati. In the 1990s, bolstered by enhanced cooperation with Central American nations facilitated by the OFDC, these small-scale vessels commenced operations in Panama and Brazil, extending their reach to the Atlantic Ocean, including areas near Trinidad, Senegal, West Africa, Ghana, and Gambia.¹⁵

Larger-scale tuna longline operations generally include vessels weighing between 350 to 720 tonnes. These vessels tend to have crews of 25 to 40 workers as the size of the vessels allows a larger team.¹⁶ Larger tuna longliners are typically built with metal instead of the FRP, which is why they can be built much larger.

Vessel owners of similar operations typically unit as industrial associations. Small-scale tuna longliners, mainly based in Donggang, are affiliated with the Taiwan Tuna Longline Association (TTLA), while larger-scale operations, centred in Kaohsiung, are linked to the Taiwan Tuna Association (TTA).

Vessels of different sizes mean different working dynamics and challenges, which will be discussed in later chapters. The key point is that even within the tuna longline fishing industry, it is not homogenous. Rather, vessel owners face unique challenges depending on their operations.

Table 1. Categories of tuna longline fishing vessels in Taiwan. (Table made by HRC)

	Small scale tuna longliners	Larger scale tuna longliners
Size	Generally less than 100 tonnes	Generally between 350 to 720 tonnes
Material	Fibreglass-reinforced plastic (FRP)	Metal
Crew	Between 10 to 20 workers	Between 25 to 40 workers
Port	Mainly registered in Donggang	Mainly registered in Kaohsiung
Association	Taiwan Tuna Longline Association	Taiwan Tuna Association



¹⁴ Lee. (2019). The captain and fishermen work together to create the trajectory of the small tuna fishing boat in the Pacific Ocean. Harvest. <https://www.agriharvest.tw/archives/11914>

¹⁵ Lee. (2019). The captain and fishermen work together to create the trajectory of the small tuna fishing boat in the Pacific Ocean. Harvest. <https://www.agriharvest.tw/archives/11914>

¹⁶ Zhang & Yu. (2024). Taiwan's Offshore Fishing Industry "Quality" Enhancement: Breaking through the Industry's Three Major Challenges and Moving Toward a Steady and Sustainable

Analysis on vessel gear and workers hired

Statistics published by the government show that tuna longline fishing vessels are the largest segment of Taiwanese distant water fishing vessels, making up 86.58% of fishing vessels. Expectedly, it is also the largest employer type for crew, but only accounting for 67.76% of crew hired. On the other hand, even though squid jigging vessels only account for 9.34% of Taiwanese DWF vessels, it hires almost one-third of the crew in Taiwanese DWF. This is because squid jigging vessels are usually much larger, meaning each vessel has more crew members.

Table 2. Type of fishery in Taiwanese distant water fishing industry

Type of Fishery	DWF Vessels	% of Taiwanese DWF Vessels	Crew on DWF Vessels	% of Crew in Taiwanese DWF
Tuna Longline	955	86.58	18159	67.76
Squid Jigging	103	9.34	7021	26.20
Tuna Purse Seine	27	2.45	1036	3.87
Transport Vessel	11	1.00	437	1.63
Longline	7	0.63	145	0.54
Total	1103	100	26798	100

As a rule of thumb, in the scenario when no fish quota restriction is limiting the catching ability of the fishing vessels, larger vessels tend to have a higher profit margin compared to smaller fishing vessels.

“In the past our vessel can only store so little, that means we can only catch little and have to return to port to unload the fish. It wastes so much time. In the end, we all upgraded the vessels to 1000 tonnes, 1,500 tonnes, so it would be profitable. Fishing vessels have to be big enough. Look, the purse seine vessels from the Soviet Union was 3000 tonnes.”¹⁷

Please see the Appendix for a complete introduction of each type of fishing vessel.



¹⁷ L H. W. Cheng, S. L. Lee. (2016). Race for Survival at Sea - A Fisherman's Voice of Fish Catching for Half a Century [海上生存賽局——一位漁撈長半世紀的討海心聲]. The Reporter. Retrieved from: <https://www.twreporter.org/a/fishing-industry-chief-fisherman>

2.2. Introduction to the governance structure

At the central government level, two primary governmental departments oversee the entire fishing industry. While Taiwan is a major global fishing nation, unlike other countries, Taiwan does not have a “Ministry of Fisheries.” Instead, domestically, a third-tier government department, the Fisheries Agency (漁業署), oversees all administrative duties, while the Overseas Fisheries Development Council (OFDC, 財團法人中華民國對外漁業發展協會) handles international collaborations. On the local level, every major fishing town or city has its own fishermen’s association under the Taiwan National Fishermen’s Association ROC (ROCNA, 中華民國漁會), offering guidance to the local fishermen association. From an industry standpoint, four major fisheries associations represent their respective groups of members.

The Fisheries Agency was established in 1984 and underwent significant reform in 2023. Before 2023, the Fisheries Agency reported to the Council of Agriculture, under the Executive Yuan¹⁸. In 2023, the Council of Agriculture was upgraded to the Ministry of Agriculture (MOA), meaning increased budget and personnel.¹⁹ Originally, the Council of Agriculture functioned as a special commission equivalent to a second-level agency. After the reform of the Council of Agriculture, the Fisheries Agency was officially upgraded to a second-level agency. Additionally, the personnel of the Fisheries Agency expanded from 211 to 228, including external contractors.²⁰ The Fisheries Agency serves as the administrative authority overseeing all aspects of the fishing industry.

The Agency maintains a comprehensive registry of licensed vessels and monitors their operations by deploying inspectors or observers. In response to recent reports of exploitation on fishing vessels, an increased number of inspectors have been dispatched to accompany vessels at sea, ensuring compliance with legal standards. Additionally, the Agency holds regular meetings with stakeholders to finalise industry guidance and ensure the implementation of new measures. Lastly, the Fisheries Agency is responsible for budget allocation, which includes investment in the renovation of sustainable fish harbours, the acquisition of old fishing vessels, and providing subsidies for the construction of new fishing vessels.

The Overseas Fisheries Development Council (OFDC) was established by the Taiwanese government in 1989.²¹ OFDC is registered as a non-governmental organisation but with trustees consisting of government officials and industry leaders. It exists to navigate the complex political challenges for Taiwan’s distant water fishing industry – instead of the Fisheries Agency, OFDC is the entity that represents Taiwan in international negotiations with other fishing nations. Its primary objectives are to assist the government and the industry in securing fisheries cooperation agreements, implement the fishery observer project for the FA, and provide emergency financial and logistic support for vessels and crew encountering accidents.

Regional Fishermen Associations,²² operating based on the Fishermen Association Act,²³ provide more accessible resources and direct assistance to the locals. The large-scale associations manage the local fish markets and have credit departments that provide more favourable loans to fishermen.²⁴ The ultimate goal of these associations is to ensure the sustainable development of the fisheries industry.²⁵ In addition, these associations organise training activities, such as production and marketing courses to ensure the steady progress of fisheries technology, women’s home economics classes to mobilise women in fishing towns, and youth training programmes to maintain professional manpower within the industry.²⁶ They host promotional festivals as well to enable consumers to better understand the culture of fishing and fish-related diets, such as the Pingtung Donggang Bluefin Tuna Festival.^{27,28}

¹⁸ The Executive Yuan is the executive branch of the government of the Republic of China (Taiwan). Retrieved from: <https://english.ey.gov.tw/>

¹⁹ Fisheries Agency. (2024). About us. Retrieved from: <https://www.fa.gov.tw>

²⁰ Fisheries Agency. (2024). About us. Retrieved from: https://www.fa.gov.tw/view.php?theme=web_structure&id=169

²¹ OFDC. (2024). About us. <https://www.ofdc.org.tw>

²² Ministry of Agriculture. (2024). List of fishery and agriculture associations. Retrieved from https://www.moa.gov.tw/theme_list.php?theme=farmers

²³ THE R.O.C LAWS & REGULATIONS DATABASE, MINISTRY OF JUSTICE. (2024). The Fishermen Association Act. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050026>

²⁴ Agriculture Credit Guarantee Fund. (2024). About Us. <https://www.acgf.org.tw/Page/PageEditor/E3IMAXWR5PUUPJ6B7M4CHQPSWE>

²⁵ Ministry of Agriculture. (2023). A New Look at Agricultural Organizations-National Fishermen’s Association Serves All Fishermen in the Country [農民組織新貌－全國漁會為全國漁民服務]. Retrieved from <https://www.moa.gov.tw/ws.php?id=2447220>

²⁶ Ministry of Agriculture. (2023). A New Look at Agricultural Organizations-National Fishermen’s Association Serves All Fishermen in the Country. [農民組織新貌－全國漁會為全國漁民服務]. Retrieved from <https://www.moa.gov.tw/ws.php?id=2447220>

²⁷ Hsiao, Y. (2021). The current development and future perspectives of the fisherman’s association extension system. Fisheries Extension Report. No. 51. Retrieved from <https://www.airitilibrary.com/Article/Detail/10230750-202112-202201260015-202201260015-13-25>

²⁸ Pingtung Bluefin Tuna Cultural Festival. (2024) Website. Retrieved from <https://www.amazing-pingtung.com/ptcf>

Flag-Horne Port

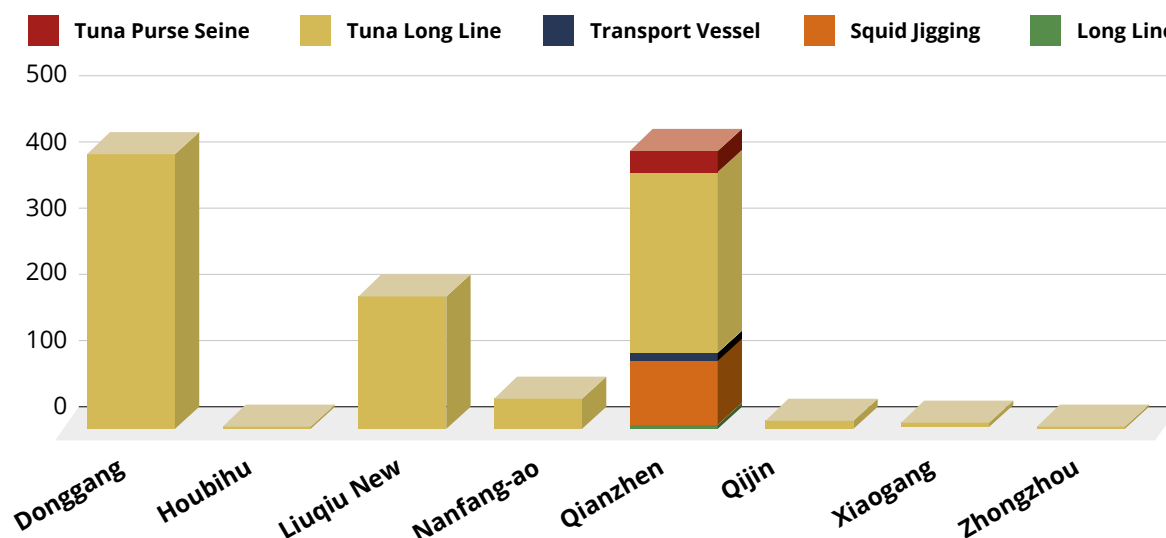


Figure 2. Allocation of Taiwanese Vessel Types Across Taiwanese Ports. Source: Taiwan Foreign Crew Interactive Service Platform,²⁹ graph created by HRC.

According to the chart, Donggang hosts a significant number of tuna longline vessels and a smaller number of transport vessels. Houbi (後壁) and New Liouqiu (小琉球) also have a considerable number of tuna longline vessels. Nanfang-Ao (南方澳) has a moderate presence of longline vessels. Qianzhen (前鎮), as a major port in Taiwan, hosts a diverse range of vessels, including a large number of tuna longline vessels, transport vessels, and squid jigging vessels. The ports of Qijin (旗津), Xiaogang (小港), and Zhongzhou (中洲) have minimal representation of these vessel types.

2.3. The management of and policy direction towards the industry

This section covers the existing policy initiatives and governmental plans aiming at improving the overall management of Taiwan's distant water fishing industry, such as the classification system for vessels; enhancing the operation of the existing vessels, such as following the standards set in ILO C188 and providing subsidy for fuel; as well as downsizing the industry to ensure that only the better and profitable actors remain, such as the vessel decommissioning programme. All of the abovementioned aim at developing a more sustainable distant water fishing industry. However, working conditions for fishers are strongly linked to the cost and benefits faced by vessel owners, and some of these initiatives, in the short term, may lead to the compromising of fishers' rights.

Taiwanese classification system for vessel sizes

All licensed fishing vessels are assigned an individual CT serial number by the Fisheries Agency, which consists of a single number indicating the vessel's tonnage range classification and a four-digit unique identification number. This system is designed to manage the vessels administratively. The differentiation between different CT scales affects the amount of administrative fines, with vessels CT7 and above facing the highest penalties. Additionally, vessels CT5 and above receive larger quota allocations compared to those with CT3 or CT4.

²⁹ Taiwan Foreign Crew Interactive Service Platform. (2024). Retrieved from https://www.en.happyfisherman.tw/page.php?menu_id=28

Table 3. The CT classification system in Taiwan³⁰

CT Number	Classification (tonnage)
CT0	Below 5 tonnes
CT1	Above 5 tonnes and below 10 tonnes
CT2	Above 10 tonnes and below 20 tonnes
CT3	Above 20 tonnes and below 50 tonnes
CT4	Above 50 tonnes and below 100 tonnes
CT5	Above 100 tonnes and below 200 tonnes
CT6	Above 200 tonnes and below 500 tonnes
CT7	Above 500 tonnes and below 1000 tonnes
CT8	Above 1000 tonnes

At Donggang Port, where the TTLA is located, the majority of vessels are smaller, falling under the CT3 and CT4 classifications. In contrast, at Qianzhen Port, home to the TTA, the vessels are generally larger than those at Donggang and include many classified as CT8.

Amount of vessels in ports, determined by CT

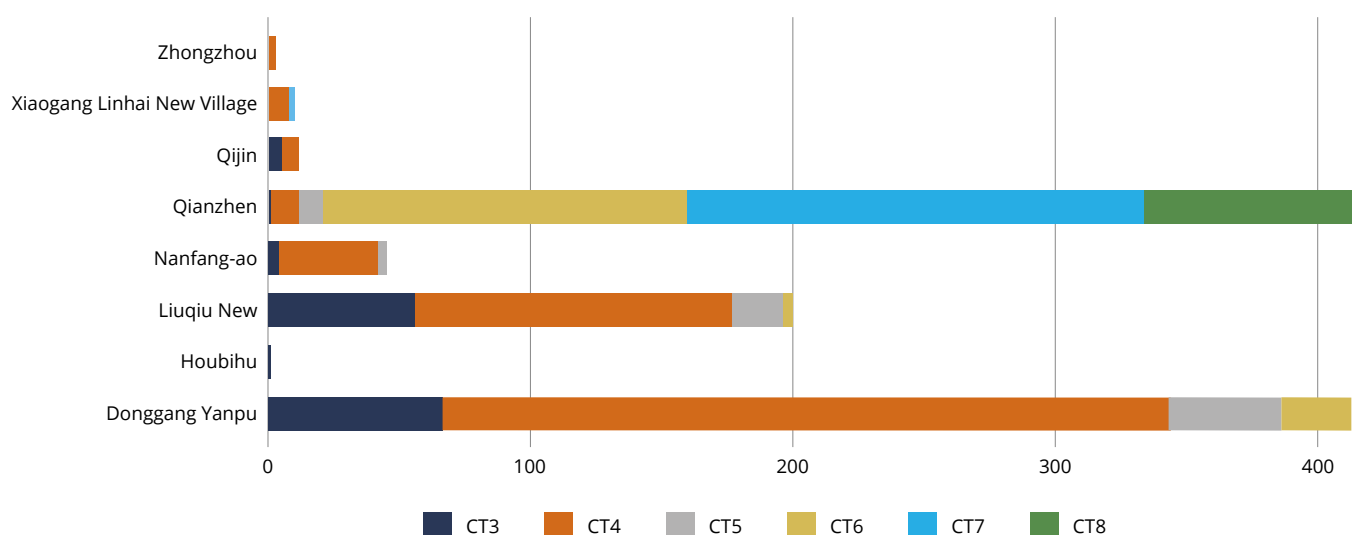


Figure 3. Amount of Vessel in Ports, Determined by CT system. Source: Taiwan Foreign Crew Interactive Service Platform,³¹ graph created by HRC.

The governmental decommission programme

In Taiwan, the distant water fishing industry is viewed primarily as an economic contributor. Acknowledging the insufficient fish stocks to support the existing size of the industry, the Taiwanese government aims to shrink the industry by decommissioning some of the vessels. Rather than having numerous unprofitable actors in the industry, it would like to incentivise the weakest actors to leave the industry.

In 1989, the Regulations for the Issuance of Building Permits and Fishing Licences for Fishing Vessels were established to promote the construction of efficient vessels and retire old, inefficient ones to sustain the fishery industry.³² Initially, acquisition funds came from both the government and the industry, but recently funding was provided solely by the Fisheries Agency.

³⁰ Kaohsiung City Marine Bureau. (2024). The Classification of the vessel. Retrieved from <https://kcmb.kcg.gov.tw/cp.aspx?n=7988CDDC702EB309>

³¹ Taiwan Foreign Crew Interactive Service Platform. (2024) Retrieved from https://www.en.happyfisherman.tw/page.php?menu_id=28

³² Zhuang,W. (2017). Briefing on the Amendments to the Criteria for Fishing Vessel Construction Permit and Fisheries License Issuance [漁船建造許可及漁業證照核發準則修正簡介]. Fisheries agency Publication Issue 180. Retrieved from <https://www.moa.gov.tw/ws.php?id=12874>.

The first acquisition phase was divided into two rounds: 1991-1995 and 2001-2005. Subsidies were split, with the government covering 3/7 and business owners covering 4/7.^{33,34} The second acquisition phase, from 2007 to 2013, had the government providing subsidies upfront, with the TTA repaying 75% of the subsidies in instalments.³⁵ Since 2014, subsidies have been entirely government-funded, with limits set per vessel. Noticeably, in the early phase of the vessel decommissioning programme, trawlers and a small number of tuna longliners were acquired, while after 2007, vessel reduction was mainly targeting tuna longliners. In 2023, subsidy amounts shifted to favour early applicants over smaller vessels.

The first acquisition phase reduced the total number of fishing vessels by about 2,750 and 138,000 vessel tonnes at a cost of about 4 billion NTD, resulting in a 20% reduction in the number of vessels and a 10% reduction in total tonnage.³⁶ In the second phase, while the number of trawlers decreased, the total tonnage of longline fishing vessels increased by about 22,000 tonnes, indicating a shift towards longline fishing.³⁷

From 2007 to 2014, vessel reduction depended on the sea area and species targeted, according to the “Regulations for Adjusting the Operating Limit on the Total Number of Vessels in the Pelagic Longline Fishery.” Annually, at least 10 large vessels in the Pacific catching bigeye tuna and at least 30 vessels in the Indo-Pacific catching bigeye and yellowfin tuna were decommissioned.³⁸ Compensation ranged from 30,000 NTD to 40,000 NTD per metric ton, split between the government and the Tuna Association, with the latter repaying the subsidy from profits.³⁹

Between 2014 and 2020, the government set a subsidy limit of 7.9 million NTD (244,300 USD) with acquisition prices varying by tonnage.⁴⁰ For the first five tonnes, the price was 50,000 NTD, and for the sixth to tenth tonnes, it was 40,000 NTD.⁴¹ The latest acquisition plan (2023-2025) decreases subsidies by 10,000 NTD per tonne each year, limiting eligibility to vessels with distant-water fishery operation permits obtained after 2017 and longline tuna fishing vessels under 100 tonnes.⁴²

The subsidy for fuel

The fuel price has fluctuated over the years and has consistently represented a significant portion of operational costs for vessel owners, with only minor differences among various types of vessels. According to media coverage, during the financial crisis of 2007-2008, the average fuel cost accounted for 40.7% of the total cost, reaching up to 53% for squid vessels.⁴³ By 2023, the average fuel cost for vessels had increased, comprising over 50% of total operational costs.⁴⁴ However, the subsidy did not increase in line with the rising fuel costs, resulting in further financial pressure on vessel owners.

³³ Fisheries agency. (2005). Vessel decommissioning is necessary to fulfill the international responsibility of the fishing industry [減船是為履行國際責任制漁業的必要措施]. Retrieved from https://www.fa.gov.tw/view.php?theme=Press_release&subtheme=&id=659.

³⁴ Chen, W. (2015). 調減遠洋鮪延繩釣漁船永續漁業經營成果. Fisheries agency Publication Issue 158. Retrieved from <https://www.moa.gov.tw/ws.php?id=9678>.

³⁵ Fisheries agency. (2005). Vessel decommissioning is necessary to fulfill the international responsibility of the fishing industry [減船是為履行國際責任制漁業的必要措施]. Retrieved from https://www.fa.gov.tw/view.php?theme=Press_release&subtheme=&id=659.

³⁶ Chen, W. (2015). 調減遠洋鮪延繩釣漁船永續漁業經營成果. Fisheries agency Publication Issue 158. Retrieved from <https://www.moa.gov.tw/ws.php?id=9678>.

³⁷ Chen, W. (2015). 調減遠洋鮪延繩釣漁船永續漁業經營成果. Fisheries agency Publication Issue 158. Retrieved from <https://www.moa.gov.tw/ws.php?id=9678>.

³⁸ Fisheries agency. (2005). Vessel decommissioning is necessary to fulfill the international responsibility of the fishing industry [減船是為履行國際責任制漁業的必要措施]. Retrieved from https://www.fa.gov.tw/view.php?theme=Press_release&subtheme=&id=659.

³⁹ Chen, W. (2015). 調減遠洋鮪延繩釣漁船永續漁業經營成果. Fisheries agency Publication Issue 158. Retrieved from <https://www.moa.gov.tw/ws.php?id=9678>.

⁴⁰ Fisheries agency. (2005). Vessel decommissioning is necessary to fulfill the international responsibility of the fishing industry [減船是為履行國際責任制漁業的必要措施]. Retrieved from https://www.fa.gov.tw/view.php?theme=Press_release&subtheme=&id=659.

⁴¹ Fisheries agency. (2010). 一百零五年度漁船漁筏收購及處理作業程序 (廢止). Retrieved from https://www.fa.gov.tw/view.php?theme=FisheriesAct_RULE&subtheme=&id=269.

⁴² Fisheries agency. (2023). 一百二十二年度遠洋鮪延繩釣漁船專案收購及處理作業程序. https://www.fa.gov.tw/view.php?theme=OceanShippingAct_RULE&subtheme=&id=20

⁴³ Chen, C. (2008). 面臨油價上漲台灣漁業經營之因應措施. Fishery Agency Publication Issue 193. Retrieved from <https://www.moa.gov.tw/ws.php?id=17820>

⁴⁴ Interview with VO_03 on 12th December 2023; Wu, B. (2024). The top three DWFAs' new year resolutions - seeking solutions for the tightened fishing quota, high entry fees, and the obstacles to export markets [臺灣遠洋漁業公會三巨頭 新年海上展望：配額緊縮、高額入漁費、外銷通路受阻 業者期待解方]. Harvest. Retrieved from <https://www.agriharvest.tw/archives/112153>

Fuel subsidy in annual budget (percentage)

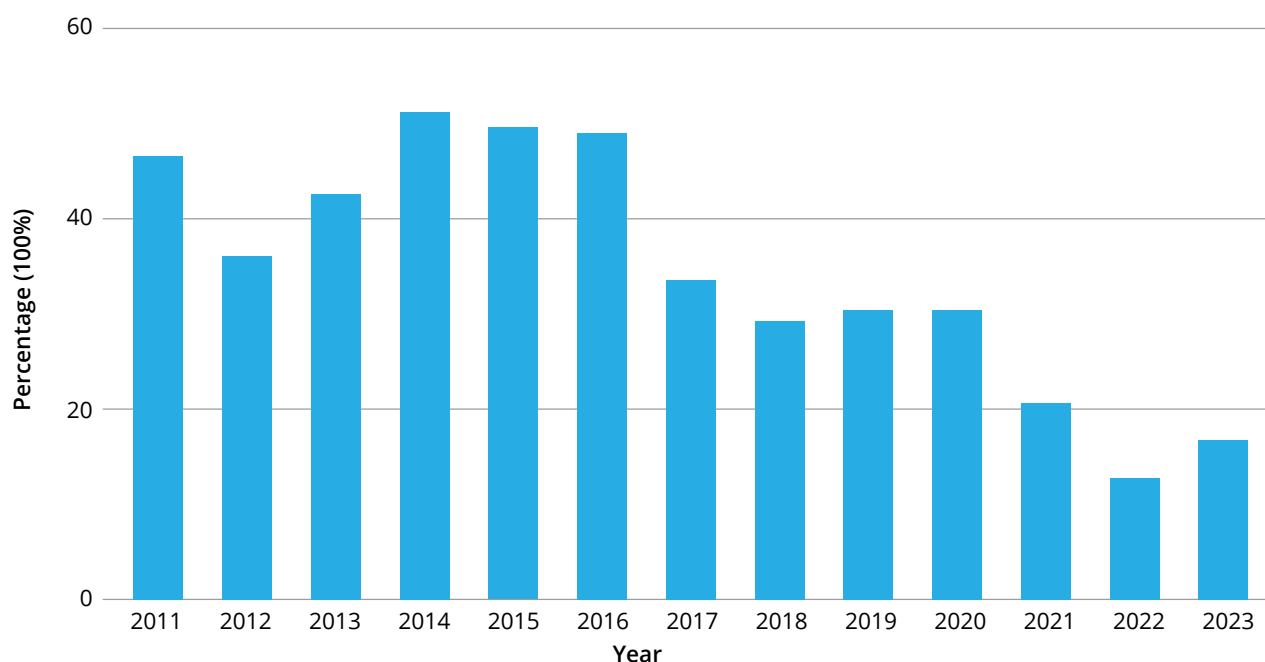


Figure 4. Fuel Subsidy in annual budget. Source: Fisheries Agency, graph created by HRC.

Harmful subsidies are a major driver of global overfishing and an indicator of labour exploitation at sea. They reveal that the industry cannot stay profitable without government support, prompting vessel owners to cut costs, often at the expense of worker welfare.

In the Taiwanese context, the Fisheries Agency has always been allocating a portion of each year's annual budget to subsidise fuel costs for vessel owners. This package includes exemptions from commodity tax and business tax, along with a 14% preferential subsidy on the fuel price.⁴⁵ While it does not apply to refuelling abroad or transshipment, the subsidy covers refuelling in Taiwanese ports twice a year.⁴⁶ According to the early record, the subsidy used to be 28% of the fuel price.⁴⁷ Cutting subsidies will force those reliant on government support out of the industry in the near future. However, during this transition, vessel owners struggling to stay afloat may further reduce costs, directly impacting workers' conditions and welfare.

All WTO member countries must comply with the Agreement on Subsidies and Countervailing Measures, which has been negotiated since 2001 with a focus on addressing trade extortion.⁴⁸ These negotiations were driven by an FAO report identifying fisheries subsidies as a cause of overfishing, prompting the WTO to discuss and regulate government subsidies.⁴⁹ The latest agreement, reached in 2022, stipulates a ban on subsidies for three types of fisheries: those engaged in illegal, unreported, or unregulated (IUU) fishing, those targeting overfished stocks, and those operating in international waters without intergovernmental supervision.⁵⁰

Before the negotiations concluded, the Taiwanese government amended the Regulation for Fisheries Fuel Consumption Subsidy in 2017. The amendment specifies that for those who violate fishing operation or fuel usage regulations, the preferential fuel price subsidies for non-compliant voyages will be reclaimed.⁵¹ Additionally, based on the severity of the violation, subsidies for purchasing fishing fuel may be suspended for a period ranging from three months to five years.⁵²

⁴⁵ Fisheries Agency. (2017). Regulation for Fisheries Fuel Consumption Subsidy. Retrieved from <https://law.moj.gov.tw/LawClass/LawAll.aspx?PCODE=J0120035>.

⁴⁶ Fisheries Agency. (2017). Regulation for Fisheries Fuel Consumption Subsidy. Retrieved from <https://law.moj.gov.tw/LawClass/LawAll.aspx?PCODE=J0120035>.

⁴⁷ The Epoch Times. (2007). Vessel owners expecting the government to subsidise fuel due to the rising fuel cost [漁船用油價新高 漁民苦楚望政府補助]. Retrieved from <https://www.epochtimes.com/b5/7/7/22/n1779995.htm>.

⁴⁸ European Parliament. (2022). WTO agreement on fisheries subsidies. Retrieved from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI\(2021\)698842_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI(2021)698842_EN.pdf).

⁴⁹ European Parliament. (2022). WTO agreement on fisheries subsidies. Retrieved from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI\(2021\)698842_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI(2021)698842_EN.pdf).

⁵⁰ European Parliament. (2022). WTO agreement on fisheries subsidies. Retrieved from [https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI\(2021\)698842_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI(2021)698842_EN.pdf).

⁵¹ Executive Yuan of Republic of China (Taiwan). (2022). Decision on Appeal and Voluntary Appeal, Executive Yuan, Taiwan No. 1090201563. Retrieved from <https://appeal.ey.gov.tw/Search/Search01/>

⁵² Executive Yuan of Republic of China (Taiwan). (2022). Decision on Appeal and Voluntary Appeal, Executive Yuan, Taiwan No. 1090201563. Retrieved from <https://appeal.ey.gov.tw/Search/Search01/>

For example, in 2020, a court record stated that JENQ MAAN SHENG (CT3-3869, 正滿勝) inaccurately reported the amount of catch by over 26%. The subsidy for the irregular voyages of this fishing vessel, totalling over 94,000 NTD (2900 USD), was reclaimed, and the vessel was suspended from subsidies for three months.⁵³ The vessel owner, Ms. Lin, filed an administrative proceeding which was later rejected.

The enhancement of the vessels to comply with with ILO C188

The ILO Work in Fishing Convention (Convention No. 188) came into force internationally on 16 November 2017 to boost global efforts to ensure decent work for the world's 38 million workers in the fishing sector. The Taiwanese government has committed to adopting ILO C188 into its domestic regulatory framework, and it has implemented several regulations to address issues related to C188 to improve the protection of migrant workers in distant water fishing. To combat IUU fishing, Taiwan enacted the Fisheries Act⁵⁴ in 2008 and the Act for Distant Water Fisheries⁵⁵ in 2016 to ensure proper management of the fishing industry. To guarantee the minimum monthly salaries of migrant distant water fisheries and maintain a basic standard of their working conditions, Taiwan relies on the Regulations on the Authorization and Management of Overseas Employment of Foreign Crew Members.⁵⁶

The team recognises the crucial role of the ILO C188 in safeguarding fishers' rights. However, the demands and practices required to comply with this convention also place additional pressure on vessel owners. Based on the requirement of ILO C188, vessels must be constructed to ensure sufficient space and reasonable living conditions for the crew. When owners attempt to modify the existing structure, it often results in reduced storage space and reduced space for crew accommodations. This limits manpower and ultimately reduces profits.

Furthermore, owners face disincentives to construct new vessels since they need to comply with C188, prioritising living and resting space for crew members instead of using the same space for fish storage. Even when a vessel is built from scratch, owners have limited options for the design of vessel storage and living space. Usually, owners need to retire old vessels and use the same tonnage allowance to build a new vessel,⁵⁷ thus creating competing priorities for limited space. Smaller storage units require more frequent trips to port for unloading goods and loading supplies, leading to increased travel costs and fewer operational days. Larger living and resting spaces per crew member also mean that vessels hire fewer crew members than before, potentially resulting in an increased workload for each crew member.

Additionally, according to the owner of CHIEN YUAN MING NO.88 (健元銘88號),⁵⁸ constructing a CT5 vessel incurs higher building costs, ranging from three to five million NTD (92,900-150,000 USD), and it takes the vessel an additional two to three years to recoup the additional costs.⁵⁹

To ensure the effective implementation of domestic regulations aligned with the C188 Convention across Taiwan's distant water fishing industry, additional resources and comprehensive planning are required. This may involve continuing the ongoing vessel decommissioning program to remove unsustainable operators, thereby prioritising support for the remaining vessel owners. Additionally, reallocating some of the unhealthy subsidies, such as those for fuel, to support vessel upgrades could also be beneficial. These will help vessel owners sustain their businesses under the new regulations, and ultimately, enhance the working conditions of fishers working onboard.

⁵³ Executive Yuan of Republic of China (Taiwan). (2022). Decision on Appeal and Voluntary Appeal, Executive Yuan, Taiwan No. 1090201563. Retrieved from <https://appeal.ey.gov.tw/Search/Search01/>

⁵⁴ Laws and Regulations Database of the Republic of China (Taiwan). (2024). Fisheries Act. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050001#:~:text=This%20Act%20is%20enacted%20to,improve%20the%20livelihood%20of%20fishermen.>

⁵⁵ Laws and Regulations Database of the Republic of China (Taiwan). (2024). Act for Distant Water Fisheries. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050051>

⁵⁶ Laws and Regulations Database of the Republic of China (Taiwan). (2024). Regulations on the Management of the Crew of Fishing Vessels. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050006>

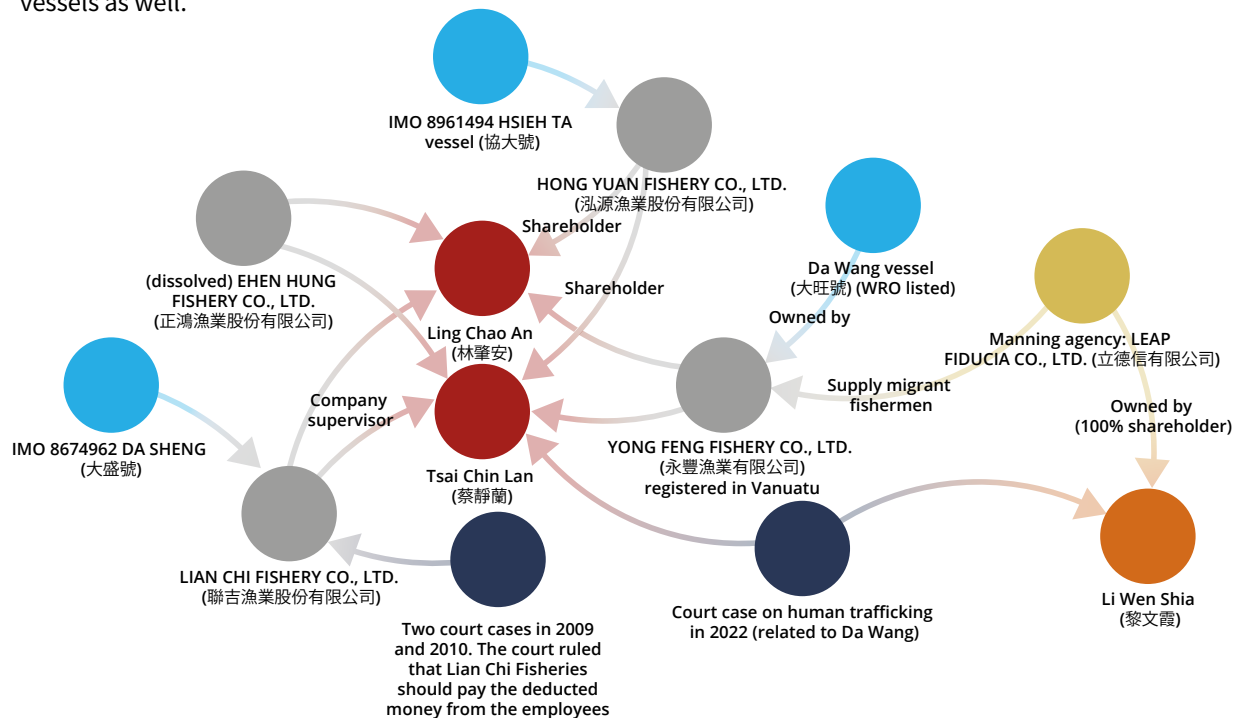
⁵⁷ LAWS & REGULATIONS DATABASE, MINISTRY OF JUSTICE. (n.d.) Regulations for the Issuance of Building Permit and Fishing License of Fishing Vessel. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050009>

⁵⁸ Western and Central Pacific Fisheries Commission. 2024. CHIEN YUAN MING NO.88 (VID: 12134). Retrieved from <https://vessels.wcpfc.int/vessel/12134>

⁵⁹ Hsu.S. (2023). Motivation and Resistance to Reform in a New Generation of Offshore Fishing Vessels: Can human rights and profits be reconciled? Improvement of cabin living and wifi communication [人權和獲利能否兩全?改善船艙起居、wifi通訊,新一代的遠洋漁船的改革動力和阻力]. The Reporter. Retrieved from <https://www.twreporter.org/a/te-hung-hsing-368-case-10-years-2>

3. Who are the Taiwanese distant water fishing vessel owners?

Unlike recreational boats that could be owned by individuals, industrial distant water fishing vessels are legally owned and operated as business properties by fishing companies, not individuals.⁶⁰ Like any other business, fishing companies could be owned by one single individual, but more commonly they are owned by a group of shareholders, mostly members of a family or multiple families. In this research, the term “vessel owners” specifically refers to the owners of these fishing companies, who are effectively the owners of the vessels as well.



Graph 2. The red bubbles indicate that two individuals, Ling and Tsai, collectively own 4 fishing companies, and use each to own one distant water fishing vessel. One company, Lian Chi Fisheries, had two court cases in 2009 and 2010 related to payment to employees. Another fishing company, Yong Feng, and the vessel that it owns Da Wang, were then investigated because of a human trafficking case in 2022. Both Tsai Chin Lan, and Li Wen Shia, the owner of the manning agency that supplies crew to the Da Wang vessel, were charged with violating the Human Trafficking Prevention Act. Graph created by HRC based on company registration information and court records.

3.1. Segments of the industry and relevant distant water fishing associations

Fishery associations in Taiwan vary depending on factors such as the terminal market, target species, catching methods, and vessel sizes. Each association serves to represent its members in administrative tasks, trading processes (such as signing charters or purchasing fishing rights from foreign countries), and collectively advancing industry improvements. These associations also receive annual quotas as a collective entity, which they then distribute amongst their members. Presently, there are four major industrial associations for the distant water fishing vessel owners in Taiwan, commonly referred to as distant water fisheries associations (DWFAs) in Taiwanese laws.⁶¹

Given the ongoing engagement of Taiwan’s distant water fishing industry in the Pacific Ocean and Indian Ocean fisheries, the expanding scope of the industry, and the implementation of measures like certificates

⁶⁰ <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050001>

⁶¹ Law and Regulation Database of The Republic of China (Taiwan). *Regulations on the Management of the Crew of Fishing Vessels*. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050006>

of origin and catch quota management systems for species such as bluefin tuna and swordfish by relevant RFMOs, four DWFAs have been established by Taiwanese vessel owners, with the support of the Taiwanese government. DWFAs operate autonomously from governmental oversight and often serve as intermediaries between the government and vessel owners, playing a pivotal role in Taiwan's distant water fishing industry. These associations are entrusted with various legal compliance procedures on behalf of vessel owners, including applying for operation licences and declaring fish catches during transshipment processes.⁶²

Generally, vessel owners register their businesses and affiliate with corresponding DWFAs based on their geographic location and the specific type of fishing they undertake. The location of these associations reveals the composition of local fishing types. Similar fishing methods tend to cluster similar vessel types in certain locations, forming associations, as explained in Figure 2. Currently, Donggang(東港), Qianzhen(前鎮), New Liuqiu(小琉球), and Nanfang-Ao(南方澳) host most of the longline fishing vessels.⁶³ The Taiwan Tuna Association (TTA) is based in Qianzhen district, Kaohsiung County, and the Taiwan Tuna Longline Association (TTLA) is based in Donggang town, Pingtung.

While vessel owners are not legally mandated to join these associations, they heavily rely on their services to navigate the complexities of operating within the industry. According to our interviews, all distant water fishing vessel owners have joined one of the four distant water fishing associations:⁶⁴ Taiwan Tuna Association (TTA), Taiwan Tuna Longline Association (TTLA), Taiwan Squid and Saury Association (TSSFA), and Taiwan Tuna Purse Seiners Association (TTPSA).

TTLA's recent board meeting minutes published show a total of 500 fishing vessels. Of these, 135 vessels operate in the Indian Ocean and 365 vessels operate in the Pacific Ocean.

Table 4. List of industrial associations for owners of distant water fishing industry in Taiwan

Association	Year formed	Type of fishing practices	Location	Number of vessels
Taiwan Tuna Association (TTA)	1970	Tuna longline fishing. Primarily comprises larger vessels (usually above 100 tonnes) that mainly fish tuna or seasonally catch sharks. ⁶⁵	Quanzhen, Kaohsiung	Approx. 300 vessels in total; 180 active vessels and 120 inactive vessels ⁶⁶
Taiwan Tuna Longline Association (TTLA)	2012	Tuna longline fishing. Members operate vessels built with fibreglass-reinforced plastic (FRP). Usually relatively small and catches bigeye tuna, yellowfin tuna, and swordfish. ⁶⁷	Donggang, Pingtung	Approx. 470 vessels in total, ⁶⁸ more than 100 vessels are inactive ⁶⁹
Taiwan Squid and Saury Association (TSSFA)	1980	Squid and saury fishing	Quanzhen, Kaohsiung	106 vessels in total
Taiwan Tuna Purse Seiners Association (TTPSA)	2008	Tuna purse seine fishing. It originally operated as one of the committees within the TTA ⁷⁰ but became an independent association in 2008 due to differences in catching methods, fishing gear, and terminal market focus.	Quanzhen, Kaohsiung	34 vessels ⁷¹

⁶² Interview with VO_07 on 27th February 2024.

⁶³ Taiwan Foreign Crew Interactive Service Platform. (2024). Retrieved from https://www.en.happyfisherman.tw/page.php?menu_id=28

⁶⁴ Interview with VO_07 on 27th February 2024.

⁶⁵ TTA. (2024). About Us. Retrieved from <http://www.tuna.org.tw/>

⁶⁶ Interview with VO_04 on 13th December 2023.

⁶⁷ TTLA. About us. Retrieved from <https://www.ttl.org.tw/about/2>

⁶⁸ Interview with VO_04 on 13th December 2023.

⁶⁹ Interview with VO_05 on 13th December 2023.

⁷⁰ TTPAS. About Us. Retrieved from <http://www.ttpsa.org.tw/en/index.php>

⁷¹ Taiwan Tuna Purse Seiners Association. (2024). About us. Retrieved from <http://www.ttpsa.org.tw/bt2.php?bid=1&btwoid=2>

As distant water fishing vessels are constantly out at sea and on the move, DWFAs act as the backstop for vessel owners to advocate for their rights; negotiate international fisheries cooperation with the RFMOs, other DWFAs, and the Taiwanese government; and represent their interests. Taiwanese vessel owners pay membership fees to DWFAs, which, in turn, provide essential services and act as their representatives during negotiations with other government and industry stakeholders.⁷² From the team's observations, the annual membership fee is relatively small and does not add financial pressure on vessel owners. All the vessel owners the team interacted with were satisfied to be part of these associations and made full use of their services.

DWFAs support vessel owners to fulfil several legal requirements for their operation. For example, according to the Regulations on the Management of the Crew of Fishing Vessels, crew members on distant water fishing vessels must participate in three training programmes: basic safety training, professional training for officers, and in-service professional training. The application of this training must be "submitted by the fishery operator employing the applicant to the regional fishermen association or distant water fisheries association to which the fishery operator belongs,"⁷³ and without the support of an intermediary, vessel owners will not be able to apply for any legally required training for their crew members.

Another crucial role of DWFAs is representing their members in negotiations with the government and other DWFAs regarding resource allocation. These negotiations can significantly impact the fishing practices and profits of vessel owners.

To prevent overfishing and mitigate fish resource depletion, RFMOs have implemented fishing quota allocation systems to regulate the catch limits of various species. These quotas are distributed among member countries to ensure sustainable management of marine resources.⁷⁴ The quota allocated to Taiwan is shared between the DWFAs, which are then distributed to their member vessels, depending on their sizes. Vessels registered with both TTA and TTLA predominantly operate as tuna longliners, indicating similar business models and target species or their members. Consequently, it's understandable for competition and conflicts to emerge between these two associations as they vigorously advocate for their members' rights.



⁷² Wu, R. (2024). The top three DWFAs' new year resolutions - seeking solutions for the tightened fishing quota, high entry fees, and the obstacles to export markets. (臺灣遠洋漁業公會三巨頭 新年海上展望: 配額緊縮、高額入漁費、外銷通路受阻 業者期待解方) *Harvest magazine*. Retrieved from <https://www.agriharvest.tw/archives/112153>

⁷³ Laws and Regulations Database of the Republic of China (Taiwan). (2024). Regulations on the management of the crew of fishing vessels. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050006>

⁷⁴ Wu, R. (2024). The top three DWFAs' new year resolutions - seeking solutions for the tightened fishing quota, high entry fees, and the obstacles to export markets. *Harvest magazine*. Retrieved from <https://www.agriharvest.tw/archives/112153>

3.2. Types of vessel owners: fishing as a generational means of livelihood versus fishing as a commercial activity

In Taiwan's distant water fishing industry, vessel owners roughly belong to one of two groups: fishing as a generational means of livelihood versus fishing as a commercial activity. For the first type of vessel owners, fishing at the high sea is a family tradition and their fathers or grandfathers have started this way of living even when technology was limited and accumulated the industrial know-how. For the second type of vessel owners, fishing is more viewed as a business activity among other business activities in other sectors such as banking, media, construction, and more.

Fishing as a generational means of livelihood

Many of the distant fishing vessels in the Taiwan Tuna Longline Association (TTLA) based in Donggang and other smaller fishing ports are family-owned, meaning that the profits from the operation of the fishing vessel are the main source of income for the family, and the operating capital of the vessel comes from immediate family members or relatives, usually a joint venture between two or three families.⁷⁵

“The organisational structure here (TTLA) is different from the TTA. In the TTA, the company's owner would never be the captain. Members of TTLA use a cooperative relationship, where a single boat is composed of two or three families. Because I as an individual don't have enough funds to operate the vessel, I would seek support from family, relatives, and lenders. At the same time, I would need to hire a captain. Even though the captain may not have to contribute to the capital, they bring in expertise, so the captain would receive a share in return.”⁷⁶

“Our vessels (TTLA) are relatively small-scale, and owners mainly consist of fishermen who have actually worked at sea in comparison to big-vessels companies. Our operational model revolves around sustaining our household livelihoods. **If the operational conditions aren't too challenging, we will continue going out to sea.** Unlike larger companies that calculate profits and losses and may refrain from sailing beyond a certain financial balance point, these individuals go out to sea as this is a primary source of family income. The fishing boats affiliated with our TTLA tend to persevere more (even in a bad year). Some boat owners often express, ‘If we don't go to sea, we won't have a meal. We need to earn as much as possible.’”⁷⁷

Therefore, compared to large fishing companies, smaller longline vessel owners, especially the members of TTLA, would choose to conduct the fishing operation even when they know it's unlikely for them to make much profit.⁷⁸ For these types of vessels, if they go to sea, they will have to face the problem of insufficient profits, and if they do not operate at sea, they will have no income to pay their existing outstanding debts.⁷⁹

Fishing as a commercial activity

In addition to the characteristics mentioned above, many of Taiwan's well-known fishing companies have accumulated substantial capital, allowing them to gradually expand their business scope to encompass different sectors of the distant-water fishery industry, including fishing, processing, and transshipment. Their significant financial resources enable these companies to afford more advanced equipment and stay up-to-date with the latest technology. This does not mean that these companies necessarily own vessels with advanced standards or prioritise fishers' rights in their operations. They are, however, more resilient against the fluctuating nature of the distant water fishing industry, with resources to enable their survival, especially in the declining industry.

⁷⁵ Interview with VO_04 on 13th December 2023.

⁷⁶ Interview with VO_04 on 13th December 2023.

⁷⁷ Interview with VO_04 on 13th December 2023.

⁷⁸ Interview with VO_04 on 13th December 2023.

⁷⁹ Interview with VO_04 on 13th December 2023.

Take Win Far Fisheries (穩發漁業)⁸⁰, located in Qianzhen Dist., Kaohsiung City, as an example. The father, Hsieh Youzhi (謝有志), initially operated a business focused on vessel supply, fish trading, and coastal fishing. He later expanded into squid product processing.⁸¹ After accumulating sufficient capital, he founded Win Far Fisheries, acquiring tuna and squid fishing vessels, thus formally entering the distant water industry. Hsieh Youzhi has acquired the title of “Squid King” among the fishing industry. After inheriting the business, Hsieh Longyin (謝龍隱) further expanded the company’s operations by purchasing purse seine vessels and fishing in the Falkland Islands. Win Far Fisheries also collaborated with the Industrial Technology Research Institute to develop drones to replace the helicopters needed for purse seine vessels. Besides reducing costs, the drones can collect detailed information for precise fish school exploration.⁸²

While there are around 180 active vessels in TTA, we have learned that **the actual owners who are making strategic and operational decisions behind these vessels are only around 20 people**. Win Far Fisheries serves as an illustrative example of this dynamic, as the enterprise branches in multiple types of fishing operations, and all vessels owned are above 900 tonnage, meaning they are efficient with strong catching capacity.

Table 5. List of vessels owned by the Win Far Fisheries. Source: Official statistics published by Fisheries Agency. Data organised by HRC

Vessel Name	Gross Tonnage	Flag-Home Port	Type of Fishery	Number of Crew
穩發財616 (WIN FAR TSAIR NO.616)	919.0	Qianzhen	Squid Jigging Fishery	64
穩發富1 (WIN FAR FU NO.1)	999.0	Qianzhen	Squid Jigging Fishery	69
穩發輝6 (WIN FAR HUI NO.6)	998.0	Qianzhen	Squid Jigging Fishery	70
穩發盈8 (WIN FAR YING NO.8)	998.0	Qianzhen	Squid Jigging Fishery	70
穩發626 (WIN FAR NO.626)	1098.0	Qianzhen	Tuna Purse Seine Fishery	35
穩發636 (WIN FAR NO.636)	1098.0	Qianzhen	Tuna Purse Seine Fishery	35
穩發666 (WIN FAR NO.666)	1096.0	Qianzhen	Tuna Purse Seine Fishery	33
穩發漁2 (WIN FAR YU NO.2)	1235.0	Qianzhen	Squid Jigging Fishery	75
穩發618 (WIN FAR NO.618)	1834.0	Qianzhen	Tuna Purse Seine Fishery	37
穩發洋1 (WIN FAR YANG NO.1)	1273.0	Qianzhen	Squid Jigging Fishery	66
穩發勝3 (WIN FAR SHENG NO.3)	1235.0	Qianzhen	Squid Jigging Fishery	71 people

Another case of a major fishing enterprise is the Wang family’s Lung Soon Group (隆順集團)⁸³ which owns a fleet of ultra-low temperature (-60 degrees Celsius) vessels, the large ultra-low temperature storage and processing plant in Taiwan, with fishing grounds all over the world. Their market covers Japan, the United States, and even Africa.⁸⁴ Using their own resources, they diversified their investments to become traders. The Shun Yi Tuna Specialty Store sells fresh sushi and advertises its integrated industry characteristics.⁸⁵

⁸⁰ Win Far. (2024). Website. Retrieved from <http://www.winfar.com.tw/>

⁸¹ Department of Industrial Technology. MOEA. (2023). Inheriting the innovative DNA of his father, Mr. Tse Lung Yin, Chairman of Stable Fisheries, uses technology to catch fish [繼承父親創新DNA 穩發漁業董事長謝龍隱用科技捕魚]. Retrieved from <https://shorturl.at/1TzkR>.

⁸² Chen & He. (2023). Ministry of Economic Affairs’ world’s first fish exploration drone fleet joins Kaohsiung’s top three fishing companies in the North Pacific Ocean [經濟部全球首創魚況探勘無人機隊 攜手高雄前三大遠洋漁業者前進北太平洋]. Retrieved from https://www.moea.gov.tw/Mns/populace/news/News.aspx?kind=1&menu_id=40&news_id=111078

⁸³ Lung Soon Ocean Group. (2024). The Group. Retrieved from <https://www.lungsoon.com/>

⁸⁴ Hong. (2018). Lung Soon has transformed itself from a small fishing village into a major supplier of sashimi [隆順從小漁村拼成生魚片供應大咖]. Wealth Magazine. Issue 53. Retrieved from <https://www.wealth.com.tw/articles/40ac1e92-03a0-428c-afe2-1c701524bbb7>

⁸⁵ Soonyi. (2024). About Us. SoonYi Sushi. Retrieved from <http://www.soonyi.com.tw/aboutus.html>

Lastly, FONG KUO FISHERY CO. (豐國水產) is financed by several major enterprises. The collective funding comes from Tsai Din-Bang, who served as the Chairman of TTA's Purse Seine Operation Committee from 1999 to 2007,⁸⁶ Chen Shua-Lai, the father of the founder of Ching Fu Shipbuilding, and Ko Kuang-Shu, one of the co-founders of KYMCO.^{87,88} The company previously had a comprehensive business across various fishery sectors, including shipbuilding and fish-catching.⁸⁹ Currently, FONG KUO FISHERY CO. focuses on operating nine thousand-ton American-style large purse seine fishing vessels equipped with helicopters for mobile fish searching.⁹⁰ Additionally, they have two five-thousand-ton purse seine transport vessels and their own freezing plant.⁹¹

3.3. Family-owned style and historical incidents of noncompliance in the industry

Family-owned style

Whether fishing operations serve as a means of livelihood or commercial activities, fishing companies in Taiwan are often family-owned, as the industry's know-how is often inaccessible to other stakeholders. In larger fishing vessel operations, there are some cases of businessmen from other industries investing in the fishing industry, but those situations are much rarer. The majority of distant water fishing vessel owners would describe that their fathers or even grandfathers already had some connections with the fishing industry.

Family-owned fishing vessels often feature father-son partnerships or generational succession within the industry. This operational model is frequently seen among the exemplary fishermen recognised annually by the Fisheries Agency. From 2018 to 2022, data shows that many of these model fishermen are second or third-generation fishers.⁹² Some had planned from the beginning to take over the family business, continuing the work of their predecessors. Others acquired specialised knowledge in engineering or mechanics before joining the family business, aiming to enhance fishing efficiency and promote sustainable fishing practices.

The younger generation of vessel owners actively participates in improvement projects to ensure the sustainable development of the fishing industry. For instance, Yang Chi-Hao(楊次豪), the son of the owner of CT3 Cyuan Ji Sing No.6 (全吉興六號),⁹³ and Chen Yi-Wei (陳益禕), the owner of CT 3 vessel Shin Chang Fa No.1 (新長發一號)⁹⁴, are members of the Mahi-Mahi Fishery Improvement Project (FIP). They not only work alongside their fathers at sea but also focus on improving fishing techniques and establishing systematic management to ensure a clear profile for their products in the international market.⁹⁵

Historical cases of non-compliance

To identify gaps and opportunities for vessel owners in Taiwan to improve their operations in terms of human rights, sustainability, and legal compliance, it is useful to review historical cases of non-compliance.

The management of Taiwan's distant water fisheries generally focuses on addressing issues related to IUU fishing to meet EU standards. These issues include exceeding allocated fishing quotas, falsifying reports on fish catches, fishing prohibited species, and investing in foreign-flagged vessels without permission.⁹⁶ Of all the fines

⁸⁶ National Chung Hsin University. (2024). 傑出校友-蔡定邦. Retrieved from <https://secret.nchu.edu.tw/uploads/peri/1404.pdf>.

⁸⁷ KYMCO (光陽機車) is a globally renowned manufacturer of professional motorcycles, known for its focus on advanced technology and innovative thinking. Designed to meet the comprehensive needs of customers, KYMCO motorcycles are highly appreciated and well-regarded by consumers in over 100 countries. For more information: <https://www.kymco.com.tw/>

⁸⁸ Hong,S. (2018). Secret of Taiwan's fishing industry dominating the global [賺遍全球的日不落帝國 台灣漁業霸主揭密]. Wealth magazine. Retrieved from <https://www.wealth.com.tw/articles/2ec520e3-9ac0-4129-b4c7-8c67c529b42e>

⁸⁹ Hong,S. (2018). Secret of Taiwan's fishing industry dominating the global [賺遍全球的日不落帝國 台灣漁業霸主揭密].Wealth magazine. Retrieved from <https://www.wealth.com.tw/articles/2ec520e3-9ac0-4129-b4c7-8c67c529b42e>

⁹⁰ Hong,S. (2018). Secret of Taiwan's fishing industry dominating the global [賺遍全球的日不落帝國 台灣漁業霸主揭密]. Wealth magazine. Retrieved from <https://www.wealth.com.tw/articles/2ec520e3-9ac0-4129-b4c7-8c67c529b42e>

⁹¹ Fung Kuo Fishery Co. (2024). About Us. Retrieved from <http://fkwork.fongkuo.com.tw/>.

⁹² Fisheries Agency. (2022). List of Model Fishermen. Retrieved from https://www.fa.gov.tw/view.php?theme=Press_release&subtheme=&id=1850

⁹³ Cyuan Ji Sing No.6 is registered as CT3-5559.

⁹⁴ Shin Chang Fa No.1 is registered as CT3-5561.

⁹⁵ Hong. (2023). 12 Model Fisherman. Retrieved from: <https://www.agriharvest.tw/archives/107749>

⁹⁶ Lee,S. (2018). Thousands of fishermen protest against "too many fines", whose nightmare has fisheries management become? [上千漁民抗議「罰太多」,漁業治理成為誰的噩夢]. The Reporter. Retrieved from <https://www.twreporter.org/a/fishermen-protest>

imposed on vessel owners between 2017 and 2020, 60 percent were for unreported fish catches and fishing without permission.⁹⁷ Although fines for labour standards violations accounted for only 8.7 percent of the total, there were still 252 cases of employers hiring migrant fishers without permission, including unreported fishers, fishers with overdue declarations, and transmitting fishers without permission.⁹⁸ These cases might result in fishers being excluded from legal protections and facing further exploitation during their work.

Take the Win Far Fisheries mentioned above for example, in 2020, a fisheries observer from Kiribati, Eritara Aati Kaierua, died on WIN FAR NO.636 (穩發363). His death was initially declared a homicide but later attributed to “natural causes,” a conclusion that raised suspicions among his families, investigative journalists, and NGOs.

In 2014, on another fishing vessel of the Win Far Fisheries, WIN FAR YING NO.8 (穩發盈8), a death happened. Indonesian fisherman Rano, seeking revenge for a compatriot, attacked mainland Chinese fisherman Guo on August 17th 2014. Rano cut Guo’s left arm and stabbed him in the left abdomen. Despite the captain’s offer to send him back to Taiwan for medical treatment, Guo refused, fearing he would lose his salary. After half month, on September 5th, Guo’s condition worsened, and he died that afternoon from a swollen abdomen and purple face.⁹⁹ While there are many details missing from the publicly available information, the case raises questions on the treatment at sea, and dealing of conflicts and injuries.

Our analysis also found cases that reveal the lack of criminal accountability. For example, in 2011, over 200 Cambodian fishermen docked in ports across several countries and filed complaints against their recruitment agency, Giant Ocean Agency (巨洋仲介), alleging that the agency trafficked them to work on fishing vessels in Taiwan and other countries. They reported not receiving wages and suffering severe abuse by the captains.¹⁰⁰ In 2014, six Taiwanese owners of Giant Ocean were then sentenced by the Cambodian court for 10 years in prison each. However, only one has been serving the prison term in Cambodia, while the others returned to Taiwan to avoid justice. Instead of facing prosecution in Taiwan, these individuals were able to continue their business with impunity. For example, one of the owners of Giant Ocean Agency, Chen Chuan Mu (陳春木) still owes a Taiwanese recruitment agency, Yo Chaun International (友春國際股份有限公司), and the company is still on the Fisheries Agency’s list of approved recruitment agencies, with an approved quota to introduced up to 399 migrant fishermen to fishing vessels.¹⁰¹

Between 2013 and 2021, four Taiwanese-flagged vessels, Chun Yi No. 217 (春億217號), Yu Fong No. 67 (裕豐67號), Yu Fong No. 202 (裕豐202號), and Squid Power No. 101 (魷達 101 號), as well as a Vanuatu-flagged vessel owned and operated by a Taiwanese company, Da Wang (大旺號), were accused of forced labour against their workers. Suspected cases include forcing fishers to work overtime, deceiving their fishers, and withholding fishers’ personal documents.¹⁰²

There have been a number of incidents of labour and other violations by vessel owners in Taiwan’s distant water fishing industry over the years. This certainly justifies the recent increased scrutiny the industry has faced regarding human rights, sustainability, and legal compliance. The key, for the purpose of our analysis, is to develop a deeper picture of the role played by vessel owners - whether good-faith actors or criminals - along with some of the key mechanisms which have enabled such violations to persist. The next section analyses the challenges faced by Taiwanese owners within the wider system, which will enable us to identify realistic ways to support good-faith actors and nurture more just conditions for fishers and other people within the supply chain.

⁹⁷ Ko, H. (2020). 520 Violations in 4 Years: Is Taiwan’s Distant Water Fishery Healthier After Tighter Regulations? [4年520筆違規處分——監管收緊後的台灣遠洋漁業，是否更健康了?]. The Reporter. Retrieved from <https://www.twreporter.org/a/unfinished-far-sea-fishing-governance-punishment-review>

⁹⁸ Ko, H. (2020). 520 Violations in 4 Years: Is Taiwan’s Distant Water Fishery Healthier After Tighter Regulations? [4年520筆違規處分——監管收緊後的台灣遠洋漁業，是否更健康了?]. The Reporter. Retrieved from <https://www.twreporter.org/a/unfinished-far-sea-fishing-governance-punishment-review>

⁹⁹ <https://www.chinatimes.com/newspapers/20140921000353-260106?chdtv>

¹⁰⁰ Chiang, Y. & Lee, S. (2018). How Taiwan Became an Accessory to Slavery on the High Seas. Reporter. Retrieved from <https://www.twreporter.org/a/slave-fishermen-human-trafficking-gcs-english>

¹⁰¹ https://wm.moa.gov.tw/preview_fa/view.php?theme=Announcement_Info&subtheme=&id=282

¹⁰² Greenpeace (2020). “Trapped at Sea”: An Indonesian fisherman shares his firsthand experience, revealing the true conditions of the distant water fishing industry [「受困海上」：一位印尼漁工說出親身遭遇，揭露遠洋漁業真實狀況]. Retrieved from <https://www.greenpeace.org/taiwan/update/32339/>



4. Challenges faced by Taiwanese vessel owners

4.1. Trading dynamics, limited market, and the lack of bargaining power

Fish prices – a key to profitability

In most markets, prices are determined by matching the supply and demand for a product. In the global market, prices for undifferentiated goods with many buyers and sellers are determined by large-scale forces, which are beyond the control of any individual entity. Taking the price of squid as an example, generally, global production levels throughout the year affect its prices. In previous years, the decrease in squid production has resulted in stabilised or increased prices.¹⁰³ However, some of the key fishing species in the Taiwanese market, such as tuna, do not operate this way. This is primarily because there are fewer buyers, who appear to be well-organized. This organisation tends to push prices below what a “free” market would dictate.

Vessel owners’ revenue hinges on the price of fish, which is influenced by many factors. All vessel owners interviewed by the team mentioned having **extremely limited or no power to negotiate the price** at which they could sell their catches.

“Unlike construction companies that can set prices for their products and pass their operational costs directly to consumers, vessel owners often have no power in deciding the price of their products. Instead, pricing is entirely subject to market dynamics.”¹⁰⁴

Vessel owners often sell their fishing harvests to traders and have limited knowledge of the final destination of their fish sell. Therefore, they are unable to take into account other relevant factors that may affect the price of their fish, such as tariff and transportation costs, while negotiating fish prices with the traders they work with. This results in the power imbalance between vessel owners and the traders, which will be further discussed in the next section. A representative of a distant water fishing association highlighted

¹⁰³ Interview with VO_08 on 3rd April 2024.

¹⁰⁴ Conversation with an anonymous government officer on 12th April 2024.

the challenges vessel owners currently face in influencing fish prices. He mentioned that in the past, vessel owners had opportunities to meet with traders to discuss fish prices collectively. However, as most traders now contact individual vessel owners and arrange business privately, the collective efforts of vessel owners have diminished.

“We had bargaining groups twenty years ago, but later it became uncontrollable. Some small manufacturers and vendors started selling on their own, and ship owners were unwilling to work with the bargaining groups.”¹⁰⁵

For some products, if a seller fails to find a buyer at the expected price, they can wait or find an alternative market. However, for fresh, perishable goods like fish, sellers often cannot wait. Further, because of Taiwan’s unique political status, it faces unique challenges in the global economy. Taiwan has generally been excluded from global and regional free-trade agreements, leaving it to negotiate bilateral agreements where possible. Where such agreements have not been set up, Taiwanese fishing companies face high tariffs which essentially exclude their products from those markets.¹⁰⁶

For instance, when Taiwanese vessel owners export their fish to the European Union (EU), they face tariffs ranging from 14% to 20%, significantly increasing the cost of their products compared to others.¹⁰⁷ To enter the EU market and avoid the high tariff, they may opt to sell their catch to intermediary countries with lower tariffs, such as South Korea. Or, more commonly, they may opt to sell their catch directly to other countries with lower tariffs – especially to Japan, where the tariff falls at 3.5% at the moment.¹⁰⁸

In practice, this limits Taiwanese owners to selling their catches primarily to the Japanese market. Under these market restrictions, vessel owners tend to be forced to sell at the buyers’ asking price or risk their entire income.¹⁰⁹

This reliance on the Japanese market means that any changes in Japan can have a substantial impact on Taiwan’s fishing industry. The recent depreciation of the Japanese Yen has significantly impacted profits for Taiwanese owners. Some vessel owners our research team spoke with shared how recent shifts in Japan’s consumer habits, with Japanese youth eating decreasing amounts of high-end Sashimi, have also impacted vessel owners’ profits in selling their tuna catches.¹¹⁰

Another example is the Argentine soft-fin squid. When selling to the US and EU markets, fishing companies from countries with trade agreements in place are able to sell their catch for NTD 1,500 (USD 46.73) per kilo, but for Taiwanese vessel owners, the price needs to be more than NTD 1,800 (USD 56) to cover their operational costs.¹¹¹ These limited export options significantly disadvantage Taiwanese products and severely restrict the revenue Taiwanese vessel owners can generate.¹¹²

Dynamics and collaboration with traders

In addition to the challenges of export markets, Taiwanese vessel owners must face the power of trading intermediaries in the supply chain. Traders not only purchase fish catches directly from vessel owners, but they also provide a range of essential support services to the international fish market. These services include facilitating the necessary paperwork for purchased fish catches, negotiating with local customs authorities,

¹⁰⁵ Interview with VO_03 on 12th December 2023.

¹⁰⁶ Interview with VO_03 on 12th December 2023.

¹⁰⁷ Interview with VO_03 on 12th December 2023.

¹⁰⁸ Interview with VO_03 on 12th December 2023, Ministry of Agriculture. (2024). Frequently asked questions. Retrieved from <https://www.moa.gov.tw/ws.php?id=2503923>

¹⁰⁹ Interview with VO_07 on 27th February 2024.

¹¹⁰ Interview with VO_03 on 12th December 2023.

¹¹¹ Yu-Ping Chang. (2022). The revisiting of China’s ban. Five challenges Taiwan’s distant water fishing industry must overcome. *FoodNext*. Retrieved from <https://www.foodnext.net/news/newstrack/paper/5975771330>

¹¹² Interview with VO_03 on 12th December 2023

and coordinating transshipment services for the vessel owners they work with.¹¹³ Because it is so difficult for vessels to sell their catches directly in distant markets, traders often hold a great deal of bargaining power over the price of fish catches. Again, this tends to eat into the revenue vessel owners are able to generate and affects their ability to implement reforms or improve workers' wages.

Numerous international traders have emerged that either purchase large quantities of catches individually or collaborate in groups to collectively establish the price of fish catches, thereby exerting considerable influence on the fish market. Price-fixing is illegal under Taiwan's Fair Trade Act. However, these practices often occur outside the country and involve stakeholders of multiple nationalities, which falls beyond the Taiwanese's jurisdiction. Every year, these merchants closely monitor data on a number of variables that affect fish prices, such as the quantity of fish caught. With this data available, they can make informed market predictions and have anticipated price points in mind.¹¹⁴

As the global seafood supply chain comprises multiple layers, the journey of fish from vessel to market can be opaque and vessel owners often possess limited knowledge about the ultimate destination of their catch. Through our interviews with some well-informed owners, we managed to gather valuable information about the key traders and what happens to the fish after the first sale.

Taiwanese-flagged tuna longliners that return to Taiwan after their fishing trips typically sell their catches to local distributors, retailers, or large trading companies.¹¹⁵ The top buyers of fish catches from Taiwanese-flagged vessels include three of the largest global fish trading conglomerates¹¹⁶ – FCF (豐群)¹¹⁷, Tri-Marine (三海)¹¹⁸, Itochu¹¹⁹ – as well as local traders such as Fue Shin Fishery Ltd (綜信).¹²⁰ For the vessels docking at fishing bases overseas, the fish catches may be sold directly to canneries operated by or collaborating with international traders, such as Pacific Fishing Company Pte Limited (PAFCO) in Fiji,¹²¹ and Starkist Samoa Inc. Tuna Cannery based in American Samoa.¹²² Bumble Bee Tuna, a seafood company acquired by FCF in 2020, sources canned tuna from PAFCO, and the canned tuna produced in Samoa is directly supplied to Starkist,¹²³ the company that owns this business. Some catches may also be sold to Thai canneries, and in these cases, owners rely on traders to handle further processing and distribution of catches.

Being one of the largest “integrated supply chain service providers for marine products,”¹²⁴ FCF plays various roles in Taiwan's distant water fishing industry. Taking the yellowfin tuna sashimi market in Japan as an example, as the number of competitors decreases, **the price of yellowfin tuna is increasingly dominated by FCF alone.**

As mentioned by a member of a distant water fishing association, fish prices are currently being largely influenced by FCF as a sole actor:

“Our current bargaining power is zero. In the past, we could compare prices and not necessarily only sell to FCF. However, when the interests of the vendors (traders) are infringed upon, they will find ways to bring the market back under their control, and now it's the result of trader monopoly.”¹²⁵

FCF serves a dual role in Japan's market, acting as both a distributor and a buyer. As a buyer, FCF places high priority on collaborating with loyal vessel owners who have established strong business relationships with the company. To maintain the flexibility of their work and to be able to sell their catches to the highest

¹¹³ Interview with VO_07 on 27th February 2024

¹¹⁴ Interview with VO_08 on 3rd April 2024.

¹¹⁵ Interview with VO_04 on 13th December 2023.

¹¹⁶ Interview with VO_09 on 9th April 2024

¹¹⁷ FCR Co., Ltd. (2024). Retrieved from <https://fcf.com.tw/>

¹¹⁸ Tri Marine. (2024). Retrieved from <https://trimarinengroup.com/>

¹¹⁹ Itochu. (2024). Retrieved from <https://www.itochu.co.jp/en/>

¹²⁰ Fue Shin. (2024). Retrieved from <https://fueshin.en.taiwantrade.com/>

¹²¹ Interview with VO_04 on 13th December 2023.

¹²² Interview with VO_09 on 9th April 2024

¹²³ Starkist is owned by South Korea's Dongwon Industries.

¹²⁴ FCF Co., Ltd. (2024). Learn who we are. Retrieved from <https://fcf.com.tw/learn-who-we-are/>

¹²⁵ Interview with VO_03 on 12th December 2023.

bidders, some vessel owners do not sign long-term partnership agreements with a specific trader.¹²⁶ However, FCF prioritises sourcing fish from their partners, and this relationship becomes particularly critical for vessel owners during years when the sashimi market experiences downturns and they encounter difficulties in selling their goods. After acquiring fishing harvests from vessel owners, FCF takes care of the distribution processes, including storage and warehouse arrangements and seeking Japanese customers.¹²⁷ Apart from higher-quality tuna sourcing for Japan's sashimi market, FCF turns tuna harvests of inferior quality into canned tuna for Europe and America.¹²⁸

FCF engages in more than just the buying and selling of fishery products. Many vessel owners rely on FCF to arrange transshipment services for them to be refuelled and resupplied with other necessities while their vessels operate at sea. In addition, FCF also acts as an intermediary to arrange exports and the transshipment of fishing products.¹²⁹ Arranging storage and transshipment services can be extremely expensive and time-consuming for vessel owners, especially when language barriers hinder collaboration with overseas entities. Consequently, Taiwanese vessel owners are increasingly reliant on the “good services” provided by FCF, fearing that without FCF, they may not be able to sell their fish in the unstable market.

As shrinking numbers of large international corporations increasingly dominate fish buying and trading, their market power is growing, allowing them to squeeze producers – even the relatively large Taiwanese fishing companies. These structural constraints on where Taiwanese owners can sell their catches and at what price put ever more pressure on how vessels can operate.

4.2. Recruitment practices resulting in exploitation against fishers

The employment of fishers involves a multi-layered recruitment process. Taiwanese vessel owners find it nearly impossible to recruit fishers from Taiwan. Instead, they usually collaborate with Taiwanese recruitment agencies to hire fishers from Indonesia (which make up more than half of all fishers on Taiwanese vessels) and other countries. These recruitment agencies source their workers from local manning agencies based in the workers' home countries. This means fishers interact with two layers of brokers, including one based outside of Taiwan's jurisdiction, before being officially hired by their actual employers in Taiwan. Just as migrant fishers encounter low transparency in the process of recruitment, this process results in gaps in knowledge and transparency for Taiwanese vessel owners regarding their recruitment of workers. Vessel owners, especially the family-owned smaller-scaled companies, often have very limited knowledge about local brokers and recruitment practices in the fishers' home countries. Since the Taiwanese government is not authorized to monitor the recruitment process outside of Taiwan, vessel owners, regardless of the sizes of their companies, are not encouraged and lack incentives to request investigation and transparency in their labour supply chain.

During the recruitment process, fishers may borrow money from the local recruitment agencies in their home countries in order to pay for the necessary documents, health checks, and transportation fees between their hometown and Taiwan.¹³⁰ The debt acquired from the recruitment fees leaves fishers working in “debt bondage,” meaning they must first work to repay their debts. Without local connections and language skills in the worker's sourcing countries, such as Indonesia, Taiwanese vessel owners are highly reliant on the recruitment agencies to source their fishers, and are often unable to directly hire fishers without support from the existing recruitment services. They are not directly involved with the recruitment of fishers,¹³¹ and therefore may not be aware of the costs fishers have to bear in the recruitment process back in their home country, including but not limited to the visa application fees and forced loans.

¹²⁶ Hung, L. (2018). FCF's marine supply chain dominates the world. Wealth Magazine. Retrieved from <https://www.wealth.com.tw/articles/2444586f-66d4-4d53-ac3d-ac39cc599e4c>

¹²⁷ Interview with VO_03 on 12th December 2023.

¹²⁸ Interview with VO_03 on 12th December 2023.

¹²⁹ Interview with VO_03 on 12th December 2023.

¹³⁰ Fishers are often pressured into taking out these loans with recruitment agencies, or may not be fully aware as to the loans they are taking out.

¹³¹ Migrant fishers are often recruited through recruitment agencies or individual brokers in their home country, then passed onto recruitment agencies in Taiwan, who are hired by vessel owners to provide workers.

In this labour supply chain, it is common for fishers to bear the transportation costs to travel from their hometown to their workplace overseas. This presents a complicated issue, as fishers from Indonesia and other countries often struggle to cover the high costs of getting to Taiwan for a fishing job, resulting in the workers being in debt before beginning their work as fisher in Taiwan. Taiwanese vessel owners are unable to control the recruitment practices that happen beyond Taiwan. The Taiwanese recruitment agencies they work with may promise fair recruitment on the sourcing of their workers, but in reality, these recruitment agencies have limited or no information about the recruitment process in Indonesia. Therefore, even the best vessel owners find it challenging to recruit workers who can avoid incurring debt before starting the job. Systematic exploitation of workers in the recruitment process is well-documented.¹³² However, this does not absolve vessel owners from responsibility. Exploitation against fishers during recruitment can be significantly decreased if Taiwanese vessel owners have opted for more ethical approaches, such as using the Direct Hiring Service provided by the Ministry of Labour to prevent their workers from undergoing the multi-layered recruitment process, or actively monitoring all stakeholders, especially the Indonesian brokers, involved in their labour supply chain. This is especially true in cases – such as the one mentioned above where vessel owners are also involved with Taiwanese recruitment agencies.

Another common issue faced by Taiwanese vessel owners is the labour disputes caused by the early termination of contracts requested voluntarily by fishers. According to the labour contract, if a vessel owner terminates the contract with a fisher, this vessel owner should bear the travelling cost for this fisher to return home. And if it's the fisher decides to quit his job before the end of the contract period, the fisher himself will be responsible for his traveling expenses.

However, there have been cases where fishers voluntarily quit their jobs and falsely claimed they were forced to terminate their contracts to obtain extra money from their employers. As most fishers bear debts from their recruitment process, as mentioned above, they may not be able to afford their flight tickets home, let alone repay their debt. In this case, some fishers who have voluntarily terminated their contracts seek support from CSOs, accusing their employers of forced contract termination and financial exploitation. Stakeholders our team interviewed shared instances of CSOs accusing vessel owners of labour exploitation and trafficking in persons, citing the issue of debt bondage as evidence for this.

¹³² See Seafood Working Group TIP submission on Taiwan in 2024, 2023, 2022, 2021.



Vessel owners may then be made to cover the cost of flight tickets home and the remaining salary owed for the duration of the contract if the fisher states the early termination of their contract was involuntary:

“Furthermore, shipowners may face a problem. If a fisherman voluntarily terminates his contract early, we will usually ask him whether he really does not want to work anymore. [...] However, these fishermen now know that under the law, as long as they say that their early termination of the contract is involuntary, the shipowner will be out of luck. The latter will have to pay the above sum of money as well as the airfare. And this is one of the points of contention, so there will be disputes between employers and employees over these matters.”¹³³

This presents a complex and delicate situation. Fishers may voluntarily quit their jobs due to the hazardous nature of the work and substandard conditions on board. However, vessel owners may feel they have already met the minimum legal standards, especially when ongoing profit losses limit their ability to improve working conditions. These two conflicting perspectives further highlight the challenges facing Taiwan’s distant water fishing industry, impairing both the vessel owners and the fishers.

Another vessel owner shared that they have lent money to fishers in the past to cover the costs of their travel to Taiwan, under a verbal agreement that it would be paid back once the fisher receives their first salary. As per the vessel owner:

“In what way can the crew member, who is in the countryside of Indonesia, travel to Taiwan? He has to borrow a certain amount of money from a recruitment agency or loan company if he doesn’t have money. How much interest do they charge? We don’t know. But indeed, when they need to come, and they don’t have money, many crew members call me asking for money. I tell them that according to the Fisheries Agency regulations, giving loans to the crew is not allowed. Indeed, you all say that deducting money cannot be done directly from his salary, so how can I lend it to you? I understand they have to borrow money because they don’t have any, from their countryside to Jakarta, and they need money because they have to take a plane, buy things, buy a suitcase, buy clothes. They can’t accuse me of being heartless because the Fisheries Agency says I can’t deduct directly from their salaries. I really have no way to handle this.”¹³⁴

The issue of recruitment fees and other related costs is part of a broader systemic issue. There is a structural problem in the migrant worker recruitment framework in Taiwan. In accordance with United Nations (UN) Guiding Principles on Business and Human Rights¹³⁵ and International Labour Organisation (ILO) General principles and operational guidelines for fair recruitment and Definition of recruitment fees and related costs,¹³⁶ such costs should be covered by the employers – in this case, the vessel owners. However, according to the Standards for Fee-charging Items and Amounts of the Private Employment Services Institution,¹³⁷ Taiwanese recruitment agencies are allowed to charge a monthly service fee from the migrant workers they introduce into Taiwan, which is clearly against international standards.

Responsible owners should take care to cover recruitment fees and costs upfront. However, in practice, given the complexity of multiple recruiters across multiple jurisdictions, this may be very difficult to achieve. Any individual owner attempting to act in this way would put themselves at a disadvantage relative to their competitors. To address this issue, three layers of effort are required. Firstly, larger industry actors with significant fleets and capital should lead fair recruitment initiatives, which will benefit them as well.

¹³³ Interview with VO_03 on 12th December 2023.

¹³⁴ Interview with VO_05 on 13th December 2023.

¹³⁵ United Nations Human Rights Office of the High Commissioner. (2011). UN Guiding Principles on Business and Human Rights. Retrieved from https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciplesbusinesshr_en.pdf

¹³⁶ International Labour Organisation (ILO). General principles and operational guidelines for fair recruitment and Definition of recruitment fees and related costs. Retrieved from https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_protect/@protrav/@migrant/documents/publication/wcms_703485.pdf

¹³⁷ Law and Regulation Database of The Republic of China (Taiwan). Standards for Fee-charging Items and Amounts of the Private Employment Services Institution. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=N0090028>

Secondly, the Taiwanese government must enhance transparency, especially regarding the handover from source country recruiters to Taiwanese recruiters, and enforce existing regulations uniformly. Lastly, the cross-national, multi-layered recruitment of Indonesian workers should be clearly regulated through a joint memorandum of understanding between the two governments.

As many fishermen working in Taiwan carry debts, vessel owners are often accused of allowing debt bondage against their workers. However, most loans borrowed by fishers were borrowed from Indonesian loan companies and recruitment agencies, and Taiwan has no jurisdiction over the loan practices between the workers and their loaners in their home country. This issue adds another layer of evidence against vessel owners with regard to accusations of labour exploitation and human trafficking, when in reality the issue of recruitment fees is not something that's in their control, but rather it is a product of a problematic recruitment process in Taiwan's fishing industry.

4.3. Fish quota limitation

How fishing quota works

Global catch limits are placed on each species of fish, and quotas are allocated to countries by Regional Fisheries Management Organisations (RFMOs),¹³⁸ which govern international fishing for sustainability. Quota assignments are based on scientific advice from RFMO's respective scientific bodies, which estimate the amount of fish that can be sustainably caught and consider various factors such as countries' likelihood of overcatch behaviour and countries' overall level of economic development. In essence, the quota allocated to Taiwan has been much smaller than the catching capacity of Taiwan's distant fishing industry, which has become a significant challenge to the distant fishing industry. This means even if vessels find the best fishing grounds and have the most efficient gears, vessels are not allowed to catch more than they are allocated.

Quotas are allocated to protect biodiversity and marine ecosystems from potential adverse effects of fishing activities.¹³⁹ RFMOs can largely be divided into those engaged in managing highly migratory fish stocks, namely tuna and tuna-like species (so-called, 'tuna-RFMOs') and those managing other fisheries resources in more specific geographical areas. Taiwan is a member of eight¹⁴⁰ RFMOs, including the Western and Central Pacific Fisheries Commission (WCPFC), however, a country does not need to be a member of an RFMO in order to receive quotas from them.

Fishing quotas over time

The four main types of tuna are bigeye, albacore, yellowfin, and bluefin. Each is regulated by one or more RFMOs, depending on geographic range. For example, the quota for bigeye tuna in the Atlantic Ocean and the Mediterranean is regulated and allocated by the International Commission for the Conservation of Atlantic Tunas (ICCAT).¹⁴¹ The Indian Ocean Tuna Commission (IOTC) regulates bigeye and other tuna quotas in the Indian Ocean. In general, vessels tend to specialise in either bigeye, albacore, or yellowfin, with all vessels taking a share of bluefin.

Taiwan's share of global fishing quotas has been decreasing for all species of tuna over the last few years. For example, Taiwan's quota of Indian Ocean bigeye tuna was 35,000 tonnes in 2023, but it was reduced to 11,488 tonnes in 2024.¹⁴² The global quota for Atlantic and Mediterranean bluefin tuna was 36,000 tonnes in 2021, of

¹³⁸ RFMOs are international organisations that establish binding measures in favour of sustainable fisheries management and conservation.

¹³⁹ European Union (EU). (2024). Regional fisheries management organisations. Retrieved from https://oceans-and-fisheries.ec.europa.eu/fisheries/international-agreements/regional-fisheries-management-organisations-rfmos_en

¹⁴⁰ These include: the International Scientific Committee for Tuna and Tuna-like Species in the North Pacific Ocean (ISC), the Western and Central Pacific Fisheries Commission (WCPFC), the Inter-American Tropical Tuna Commission (IATTC), the Extended Commission (EC) for the Conservation of Southern Bluefin Tuna (CCSBT), the South Pacific Regional Fisheries Management Organization (SPRFMO), the North Pacific Fisheries Commission (NPFCC), and the Southern Indian Ocean Fisheries Agreement (SIOFA). (Source: [Ministry of Foreign Affairs, Republic of China \(Taiwan\)](#))

¹⁴¹ ICCAT>About Us. Retrieved from <https://www.iccat.int/en/secretariat.html>

¹⁴² Shu-Min Yang. (2023). Quota for bigeye tuna fishing in the Indian Ocean has been decreased – Taiwan receiving 1,900 tonne less per year. *Focus Taiwan*. Retrieved from <https://www.cna.com.tw/news/ahel/202305170336.aspx>

which Taiwan was allocated 90 tonnes.¹⁴³ From 2023 to 2025, the global quota was increased to 40,570 tonnes per year, but Taiwan's quota only increased to 101 tonnes per year¹⁴⁴ (a decrease in proportion from 0.25% of the global catch to 0.24%). Vessel owners our team spoke with expressed their concern about this quota reduction, noting that many vessels "can hardly survive"¹⁴⁵ with the changes.

Table 6. Recommendations from the International Commission for the Conservation of Atlantic Tunas (ICCAT) on how 36,000 t bluefin tuna shall be allocated in 2021¹⁴⁶

CPC	Quota 2021 (t)
Albania	170
Algeria	1,655
China	102
Egypt	330
European Union	19,460
Iceland	180
Japan	2,819
Korea	200
Libya	2,255
Morocco	3,284
Norway	300
Syria	80
Tunisia	2,655
Turkey	2,305
Chinese Taipei	90
Subtotal	35,885
Unallocated Reserves	115
Total	36,000

¹⁴³ ICCAT. (2020). Recommendation By ICCAT amending recommendation 19-04 establishing a Multi-natural Management Plan For Bluefin Tuna in the eastern atlantic and mediterranean. Retrieved from <https://www.iccat.int/Documents/Recs/compendiopdf-e/2020-07-e.pdf>

¹⁴⁴ ICCAT (2022). Recommendation By ICCAT amending recommendation 21-08 establishing a Multi-natural Management Plan For Bluefin Tuna in the eastern atlantic and mediterranean. Retrieved from <https://www.iccat.int/Documents/Recs/compendiopdf-e/2022-08-e.pdf>

¹⁴⁵ Interview with VO_05 on 13th December 2023.

¹⁴⁶ <https://www.iccat.int/Documents/Recs/compendiopdf-e/2020-07-e.pdf>

Taiwanese regulations based on the international quota allocation

Limited quotas mean vessels cannot catch whatever species they wish. Rather, the Fisheries Agency (FA) has separated vessels into groups that limit what they are allowed to catch. For example, in the Atlantic Ocean, Taiwanese law limits the number of tuna longline fishing vessels as follows:¹⁴⁷

- 1 Bigeye tuna group: 56 fishing vessels.
- 2 North albacore tuna group:¹⁴⁸ 8 fishing vessels.
- 3 South albacore tuna group:¹⁴⁹ 30 fishing vessels.

Besides limiting vessel group numbers, the overall allocation of quotas to Taiwan also translates into specific domestic regulations that the FA publishes each year to determine how much each vessel can catch. The regulation is specific and detailed – depending on the oceans vessels are operating in, vessel size, and the ‘groups’ that they are categorised in.

Note that because fishing methods cannot exclusively target one species (thus the bycatch), even when a vessel belongs to a specific species group, they are still allocated quotas for multiple species, such as bigeye tuna, albacore, and yellowfin.

For example, in 2024, every Taiwanese fishing vessel in the Southern albacore group Operating in the Atlantic can catch up to:¹⁵⁰

- Southern albacore: 450 tonnes
- Bigeye Tuna: 20 tonnes.
- Southern Atlantic Swordfish: 2.5 tonnes
- Black Marlin: 1.4 tonnes
- Atlantic White Marlin and Roundscale Spearfish: 0.46 tonnes
- Southern Atlantic Shortfin Mako Shark: 0.75 tonnes
- Southern Atlantic Blue Shark: 11 tonnes

¹⁴⁷ Law and Regulation Database of The Republic of China (Taiwan). *Regulations on the Management of the Crew of Fishing Vessels*. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050006>

¹⁴⁸ Targeting north Atlantic albacore tuna. The fishing area is north of 10°N and west of 45°W, and north of 5°N, excluding the Mediterranean Sea.

¹⁴⁹ Targeting south Atlantic albacore tuna. The fishing area is south of 10°S

¹⁵⁰ https://www.faa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=57



The decline of allowed catch is felt by vessel owners. Take the Indian Ocean as an example, to protect marine biodiversity, the quota for bigeye tuna has been decreasing in the past year. Large tuna fishing vessels in the bigeye tuna group each received a quota of up to 230 tonnes in 2023, but this was reduced to 73 tonnes in 2024, a two-thirds decline. Vessels in the albacore and the yellowfin tuna groups each received quotas of 40 tonnes in 2023, but this was reduced to 25 tonnes and 20 tonnes in 2024.¹⁵¹ See Table 7 for clarity.

Table 7. Comparison of bigeye tuna catching quota for different oceans and vessel types in 2023 and 2024. Source: Multiple statistics published by FA. Data organised by HRC

Ocean	Vessel size	Catching group	Bigeye quota (tonnes) for 2023	Bigeye quota (tonnes) for 2024
Pacific	Large	Bigeye tuna group	470 ¹⁵²	470 ¹⁵³
		Albacore group	40	40
	Small	Yellowfin group	40	40
		General group	20	20
Atlantic		Bigeye tuna group	195 ¹⁵⁴	180 ¹⁵⁵
		North albacore group	20	20
		South albacore group	20	20
Indian	Large	Bigeye tuna group	230 ¹⁵⁶	73 ¹⁵⁷
		Albacore group	40	25
	Small	Yellowfin group	40	20
		General group	20	10

Limited quotas means vessel owners would have to make operational decisions to ensure the maximum catch is still worth spending the operational cost. For example, one vessel owner described how they shift quotas between vessels:

“Some of the ships that are docked are due to our country’s insufficient quotas, so they have to stop operating. As I mentioned earlier, a ship needs specific quotas to be profitable, but when three ships go out to sea at the same time, it leads to all three fishing vessels facing a shortage of quotas. Therefore, ship owners have to halt their ships and transfer the quotas to other ships, allowing other fishing vessels to operate.”¹⁵⁸

Vessel owners’ decisions to maintain profitability under reduced fishing quotas could potentially lead to sacrificing fishers’ job opportunities and livelihoods. In general, vessel owners hire sufficient fishers to serve the entire fleet owned by them, and most fishers are contracted between one to two years per employment terms. But even having the contracts in place, fishers may still face sudden unemployment. When vessel owners make the decision to send out only one vessel, instead of the entire fleet, due to the lack of quota, it means that workers who were working on other vessels might face sudden termination of contracts. Vessel owners do not keep fishers employed while the vessels are withdrawn from service. Arbitrary termination

¹⁵¹ Fisheries Agency. (2023). Annual catch quotas of bigeye tuna and yellowfin tuna in the Indian Ocean waters in 2024 and the quota allocation for each type of vessel. Retrieved from https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=55

¹⁵² https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=26

¹⁵³ https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=65

¹⁵⁴ https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=50

¹⁵⁵ https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=57

¹⁵⁶ https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=47

¹⁵⁷ https://www.fa.gov.tw/view.php?theme=OceanShippingAct_announcement&subtheme=&id=55

¹⁵⁸ Interview with VO_03 on 12th December 2023.

is one of the most complained about issues that migrant workers reported, as this means they might be deported back to their home countries before they can finish their employment terms and earn enough money. NGOs often report arbitrary termination of employment contracts as one intimidation tactic by vessel owners. However, the fluctuations of the quota system have a profound effect on the ability of the industry to employ workers, and termination may genuinely be due to the challenges in operations.

4.4. Policies for reducing the number of vessels

In 1991, in response to the overcapacity of Taiwan's fishing fleet, exacerbating overfishing and depleting fish stocks, the Taiwanese government introduced the vessel buyback programme.¹⁵⁹ This consisted of the Fisheries Agency offering financial incentives to vessel owners in an attempt to push them to leave the industry by buying back their fishing vessels, which would ultimately be deactivated¹⁶⁰ and decommissioned.¹⁶¹ In 2000, Taiwan continued with the second phase of the programme, following the adoption of the International Plan of Action for the Management of Fishing Capacity (IPOA-Capacity),¹⁶² which furthered its commitment to reduce overcapacity in the fishing fleet. By the end of 2010 over 3,000 vessels had been bought back, ultimately reducing the capacity of large-scale tuna longliners by over 30%, in line with the required standards of the IPOA-Capacity.¹⁶³ The programme also saw the buying back of outdated or damaged fishing vessels for scrapping.

With many vessels being bought back and scrapped under this programme, some vessel owners had no choice but to leave the fishing industry. This was especially true for owners of small vessels, who often lacked alternative sources of income. The Agricultural Bank of Taiwan, which is governed by the Ministry of Agriculture (MOA) in Taiwan, loaned money to the programme in order to provide financial compensation to the vessel owners who left the industry as a result of the buyback scheme.

As part of the agreement, vessel owners who stayed in the industry were required to repay the Agricultural Bank of Taiwan, under the assumption that the buyback scheme would boost the industry's economy. Those who exited the industry were entitled to compensation, which was to be funded by the remaining vessel owners. To facilitate these payments, the Agricultural Bank of Taiwan provided loans to the remaining owners, leaving many of them still in debt even today. **However, due to the increasingly hostile financial situation in Taiwan's fishing industry, many vessel owners are now faced with mounting debt at the hands of these bank repayments, an often overlooked and undisclosed issue amongst vessel owners.** This debt can also result in vessel owners being unable to leave the industry should they want to, as a result of being tied up in the repayments. In addition, some vessel owners must continue to work to pay back loans that were taken out to cover the initial vessel building fee. Taking out loans to cover costs revealed itself to be a common issue in Taiwan's fishing industry, particularly amongst small-scale, family-owned businesses, as outlined by one vessel owner our team interviewed:

"In the fishery industry, only 10% or less of the population doesn't have debt. As I mentioned before, the vessels consist of the entire family, and when the sole income for the family is from fishing, it is almost impossible for them to invest 20-30 million [NTD] per year just to cover the basic operational cost. Therefore, they take loans from the bank, and when there is enough profit, they would slowly pay back the debt."¹⁶⁴

¹⁵⁹ Fisheries Agency. (2014). National Plan of Action for the management of Fishing Capacity. Retrieved from https://www.google.com/url?q=https://www.fa.gov.tw/redirect_file.php?theme%3DAnnouncement_Info%26id%3D331&sa=D&source=docs&ust=1715932378039740&usg=AOvVaw1nhCX_scIleu9Z0XdAvj-e

¹⁶⁰ Deactivating a vessel involves temporarily or permanently taking the vessel out of operation.

¹⁶¹ Decommissioning a vessel involves permanently removing a vessel from operation, often by physically dismantling the vessel to ensure it can no longer be used.

¹⁶² The IPOA-Capacity is an instrument developed by the Food and Agriculture Organization (FAO) to address the issue of overcapacity in global fishing fleets.

¹⁶³ Fisheries Agency. (2014). National Plan of Action for the management of Fishing Capacity. Retrieved from https://www.google.com/url?q=https://www.fa.gov.tw/redirect_file.php?theme%3DAnnouncement_Info%26id%3D331&sa=D&source=docs&ust=1715932378039740&usg=AOvVaw1nhCX_scIleu9Z0XdAvj-e

¹⁶⁴ Interview with VO_04 on 13th December 2023.

Besides the vessel buyback programme, the past few years have seen numerous Taiwanese vessels be deactivated or decommissioned. This has resulted from several issues including a lack of sufficient quotas making it unsustainable for multiple vessels to go out to sea at once; operational costs being too high, in particular with regard to rising fuel prices, sometimes meaning vessel owners cannot afford to refuel; and a lack of workers available to carry out necessary repairs to damaged vessels.

One vessel owner our team spoke with expressed how the “dismal” saury production in recent years has led to many owners selling their squid fishing vessels, with the majority being bought by Anfeng Group. Over 60% of our interviewees discussed the issue of vessel owners deactivating their vessels, with many remaining docked in ports rather than making the trip out to sea. One director general of a Taiwanese fishing association alleged that out of 107 vessels, 20 were inactive as a result of them being outdated. Another vessel owner explained how there were over 100 vessels docked at the Yanpu Fishing Harbour in Donggang, South West Taiwan. He went on to explain how two of his vessels had been docked for four months as they were awaiting repair, as there were no workers to carry out the repairs.¹⁶⁵

Although reducing the number of vessels and number of vessel tonnage is seen as a solution to the overcapacity issue, the execution of current programmes has achieved merely 16% of the goal.^{166,167} The current program initiated by the Fisheries Agency (FA) planned to purchase small longline fishing vessels under 100 tonnes, equivalent to below CT4, with a target of 200 vessels.¹⁶⁸ FA encouraged well-capitalised fleet operators to combine the tonnage of the purchased fishing vessels, replacing small boats by building larger vessels.¹⁶⁹ However, in 2023, the programme only resulted in the confirmed reduction of 32 vessels, which is far from the original goal.¹⁷⁰

The qualified applicants are restricted to those vessels that have obtained a distant-water fishery operation permit after 2017 and are longline tuna fishing vessels with a total tonnage of less than 100 tonnes. The applicants would only be eligible to apply for compensation from decommissioning before they construct or plan to construct any new vessels. Due to limited funding, it is reasonable to limit the applicants' eligibility, but those ship owners who do not meet the requirements have no option to exit. For family-owned fishing businesses, selling the fishing vessel is a significant decision even if they qualify for compensation. Despite the allure of a substantial one-time subsidy, the family must consider the risks associated with a transition to a different industry.

The decommissioning programme may not appeal to owners for a variety of reasons. For example, it provides only 60,000 NTD (USD 1860) per tonne, which is 10,000 NTD (USD 310) lower than the lowest market price for the buyout.¹⁷¹ The Fisheries Agency will also cover the subsequent ship dismantling costs, currently set at 20,000 NTD (USD 620) per tonne, which may help to make the programme more enticing.¹⁷² However, many vessel owners still remain hesitant.

¹⁶⁵ Interview with VO_04 on 13th December 2023.

¹⁶⁶ Wu, B. (2024). The top three DWFAs' new year resolutions - seeking solutions for the tightened fishing quota, high entry fees, and the obstacles to export markets. (臺灣遠洋漁業公會三巨頭 新年海上展望: 配額緊縮、高額入漁費、外銷通路受阻 業者期待解方). *Harvest*. Retrieved from <https://www.agriharvest.tw/archives/112153>

¹⁶⁷ Fisheries Agency. (2005). Fisheries agency Continues to Promote Vessel Reduction Program in Response to International Trends. (順應國際趨勢 漁業署持續推動減船計畫). Retrieved from https://www.fa.gov.tw/view.php?theme=Press_release&subtheme=&id=606.

¹⁶⁸ Fisheries Agency. (2023). Distant Fishing Vessels Acquisition Program (2023-2025). [遠洋漁船專案收購計畫(112至114年度)]. Retrieved from <https://www.fa.gov.tw/view.php?theme=CBAROIPWAGP&subtheme=&id=12&print=Y>

¹⁶⁹ Zhang, C. (2024). Taiwan's Distant Fishing Industry "Quality" Enhancement: Breaking through the Industry's Three Major Challenges and Sailing Toward Sustainability [臺灣遠洋漁業「質」感提升: 突破產業三大挑戰 航向穩健永續]. *Harvest*. Retrieved from <https://www.agriharvest.tw/archives/112123>

¹⁷⁰ Hsu, S. (2023). Motivation and Resistance to Reform in a New Generation of Offshore Fishing Vessels: Can human rights and profits be reconciled? Improvement of cabin living and wifi communication [人權和獲利能否兩全? 改善船艙起居、wifi通訊, 新一代的遠洋漁船的改革動力和阻力]. *The Reporter*. Retrieved from <https://www.twreporter.org/a/te-hung-hsing-368-case-10-years-2>

¹⁷¹ Chen, Y. (2023). Government purchasing longliners at a low price - the industry revealing the incentives. [政府「低於行情價」收購遠洋小釣漁船 業界曝一誘因]. Retrieved from <https://news.ltn.com.tw/news/life/breakingnews/4423220>

¹⁷² Fisheries agency. (2023). Distant Fishing Vessels Acquisition Program (2023-2025). (遠洋漁船專案收購計畫(112至114年度)). Retrieved from <https://www.fa.gov.tw/view.php?theme=CBAROIPWAGP&subtheme=&id=12&print=Y>



5. Why vessel owners do what they do

5.1. Incentives and obstacles for improving the conditions of vessels

Despite the industry's recent profit downturn and the challenges many vessel owners are facing in sustaining their businesses, some continue to upgrade their vessels, emphasising the importance of providing their fishers with an improved workplace. Advancing human rights standards on distant water fishing vessels requires vessel owners to invest in onboard facilities and to prioritise workers' welfare to enable better working conditions for their employees.¹⁷³

However, upgrading existing vessels to improve the onboard space and facilities can pose a significant financial challenge to vessel owners, and may not do any good to the vessel owners from a profitability standpoint. Regarding the facilities on fishing vessels, the seven requirements set by the C188 Convention include installing beds measuring 190 x 70 cm per person, desalination units, communication tools, inflatable life jackets, and flashlights. A vessel owner told us that accommodating these additional requirements necessitates expanding the vessel's space (or compromising space for other features, such as refrigeration), thereby increasing its weight, which elevates the vessel's tonnage classification from CT4 to CT5. As noted above, quotas are allocated based on vessels' weight classification. However, vessels that expand from CT4 to CT5 to accommodate new requirements are still given quotas based on their original classifications.¹⁷⁴ This means that the investment and cost of the vessel have increased, while the profitability stays the same.

Building the distant water fishing vessel fitting all C188 requirement

The International Labour Organization (ILO) Work in Fishing Convention (the C188 Convention) sets out the minimum criteria to provide protection for fishers at their work.¹⁷⁵ Vessels that adhere to the standards set by the C188 Convention are perceived as providing improved working conditions for their fishers. There is an ongoing policy initiative in Taiwan to amend the existing regulations to align them with the standards set by the C188 Convention. As of May 2024, relevant law amendments or policies have not been carried

¹⁷³ Conversation with two Taiwanese government officers on 12th April 2024.

¹⁷⁴ Interview with VO_05 on 13th December 2023.

¹⁷⁵ International Labour Organisation. (2024). C188 - Work in Fishing https://webapps.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO:12100:P12100_INSTRUMENT_ID:312333:NO

out yet. Taiwan. However, back in 2022, a vessel owner had already built a vessel tailored to fit the C188 standards, which was the first Taiwanese-flagged small tuna longline fishing vessel built to comply with this Convention.¹⁷⁶

Talking about the intention in pioneering in building this vessel, the owner, who is also the son of a shipyard family, said:

“At that time, there were two considerations. Firstly, as operators in the fishing industry, we hoped to elevate Taiwan’s distant water fishing industry to an international level. We have felt that our Taiwanese fishing industry has been suppressed by various countries around the world. On the other hand, as a shipyard, we considered constructing a vessel that fully complies with C188 as our calling. Taking into account both perspectives, I decided at that time to construct the small tuna longline vessel that complies with C188.”¹⁷⁷

This vessel owner explained that he believes following key international standards, such as the C188 Convention, enables a more sustainable fishing industry, and that he had therefore decided to follow all standards set by this Convention while designing and building his vessel, such as installing cameras for monitoring, air conditioners, water heaters, and an onboard ventilation system.¹⁷⁸ He has been closely following the trend of sustainable development trends and built his vessel around these trends. For example, he installed a small box on board specifically dedicated to recording the carbon footprint and the electricity consumption of his vessel, enabling future review and analysis of the operational data of his fishing practices. The fishers working on his vessel experience better conditions on board, and the owner reported that his belief in the necessity of aligning the fishing industry with sustainability trends was the primary motivation behind his commitment to improving fishers’ conditions.¹⁷⁹

Mandating that fishing vessel conditions align with the C188 Convention would undoubtedly enhance the overall working conditions for fishers. To offset the costs vessel owners incur when upgrading their vessels, it would be ideal for traders to offer better prices for those that meet higher standards or comply with the C188 Convention. However, the pricing dynamic is complex and would require collaboration and more ethical practices across multiple layers of stakeholders. This includes traders and buyers willing to increase fish prices, brands and retailers ready to raise product prices, and ultimately, consumers willing to pay more for these products to make it happen.

Providing access to Wi-Fi to fishers

Enabling social connectivity onboard has been recognised as a mitigation method to prevent forced labour and other labour exploitation on distant water fishing vessels. Despite the fact that the installation of Wi-Fi has not been mandated in Taiwan, some vessel owners have voluntarily installed Wi-Fi onboard and provided access to fishers for their rights to communication.

An owner of several tuna longliners based in Donggang reported the belief that Taiwan’s fishing industry should embrace the advancing technology trends. Distant water fishing vessels themselves have undergone significant transformations, from being reliant on traditional manual fishing techniques in the past to utilising automated processes for deploying gear and employing sonar for detecting fish grounds. Wi-Fi facilitates seamless communication between vessel owners, captains, and fishers while at sea, allowing for enhanced control over vessel operations.¹⁸⁰

Instead of relying on costly satellite phones, Wi-Fi offers a more cost-effective communication solution for vessels. Satellite calls can incur substantial expenses, averaging about USD 0.99 per minute. In comparison,

¹⁷⁶ Focus Taiwan. (2022). Installing air conditioners, dining room, and desks! Taiwan’s first distant water fishing vessel complying with the international convention. Retrieved from <https://ubrand.udn.com/ubrand/story/12116/6710295#:~:text=%E5%8F%B0%E7%81%A3%E9%A6%96%E8%89%98%E7%AC%A6%E5%90%88%E5%9C%8B%E9%9A%9B,%E6%C%81%E5%B7%A5%E7%94%9F%E6%B4%BB%E7%A9%BA%E9%96%93%E5%BB%BA%E9%80%A0%E3%80%82>

¹⁷⁷ Interview with VO_06 on 13th December 2023.

¹⁷⁸ Interview with VO_06 on 13th December 2023.

¹⁷⁹ Interview with VO_06 on 13th December 2023.

¹⁸⁰ Interview with VO_05 on 13th December 2023.

Wi-Fi provides reliable and convenient communication at a lower cost and enables video calls when the connection allows. One vessel owner acknowledged that purchasing and installing Wi-Fi facilities (USD 13,873) is more costly than solely installing satellite phones (USD 7,707), but this additional investment in Wi-Fi enables a wide range of services that benefit both employers and employees.¹⁸¹

Beyond facilitating communication, Wi-Fi enables access to real-time images and videos of the fishing practices and working environments onboard, allowing for immediate diagnosis of workers' health conditions and identifying damage to fish harvests during transshipment. In a recent case in April 2023, a fisher's back was injured during his work. By transmitting a photo of his wound using Wi-Fi, the vessel owner identified the need for urgent medical attention and demanded this vessel return to port so the fisher could receive further treatment. This incident highlights the critical importance of Wi-Fi in facilitating timely medical assistance and ensuring the safety of fishers at sea. In addition, real-time monitoring of fishing harvests prevents potential profit loss for vessel owners. During the transshipment of fishing harvests, the fish catches may be damaged, which affects the quality and the price of these catches. With Wi-Fi, these instances can be documented, which can serve as evidence for claims of damage incurred during the transshipment process.¹⁸²

In 2022, Taiwan's Fisheries Agency introduced the "Subsidy Program for Distant Water Fishing Vessel Owners to Provide Internet Onboard for Foreign Crew Members," aimed at financially assisting vessel owners in installing Wi-Fi facilities. However, the subsidy only covers a one-time installation fee of USD 9,000 and a monthly operational fee of USD 244, which many vessel owners find insufficient to meet their needs. As a result, with limited financial resources, many vessel owners still opt not to provide Wi-Fi for their crew members.

Small investments to enhance fishers' well-being

In addition to making substantial investments in facilities and technology of distant water fishing vessels, some vessel owners are also taking small steps to improve the quality of life for fishers while they are working at sea.

For instance, apart from the regular meals provided onboard, one vessel owner ensures that each fisher receives an additional box of Indonesian instant noodles before every fishing trip. This thoughtful gesture ensures that fishers have a convenient and accessible snack option when needed.¹⁸³ Similarly, when arranging transshipment services for vessels operating in the Eastern Pacific, another vessel owner includes boxes of snacks and instant noodles along with the standard food and fuel supplies delivered to the fishers through the transshipment carriers.¹⁸⁴

When one fisher's mother passed away during his fishing trip at sea, his employer reportedly provided him with additional internet data for free, enabling him to make two or three video calls with his family each day to participate in funeral arrangements and stay connected during this challenging time. Additionally, this owner reported making daily calls to the fisher via Wi-Fi to offer condolence and ensure his well-being.¹⁸⁵

Certification in Taiwanese distant water fishing

The United States, a significant importer of Taiwanese fish products, has required that Taiwan's fisheries industry align with US regulations to maintain commercial ties. Since 2016, the US Department of State's annual Trafficking in Persons Report has underscored the exploitation of foreign fishermen in Taiwan's offshore fishing industry.¹⁸⁶ In 2019, the US Customs and Border Protection (CBP) issued four Withhold Release Orders against Taiwanese fishing vessels and vessels authorised by Taiwan, prohibiting the entry of

¹⁸¹ Interview with VO_05 on 13th December 2023.

¹⁸² Interview with VO_05 on 13th December 2023.

¹⁸³ Conversation with a vessel owner during a port visit on 13th December 2023.

¹⁸⁴ Interview with VO_09 on 9th April 2024.

¹⁸⁵ Interview with VO_05 on 13th December 2023.

¹⁸⁶ US Department of State. (2024). Trafficking in persons report. Retrieved from <https://www.state.gov/trafficking-in-persons-report/>

fish into the US.¹⁸⁷ Furthermore, in 2020, Taiwan was listed for the first time in the US Department of Labor's List of Goods Produced by Child Labor or Forced Labor la stating Taiwanese seafood production is the product of the exploitation of fishermen.¹⁸⁸

In response to criticism and to protect the sustainability of its distant-water fisheries, stakeholders in the distant fishing industry have pursued internationally recognised certifications to demonstrate that their catch is free from forced labour and that the origins of the fish are legitimate and legally caught. Currently, vessel owners and traders within the fisheries sector are seeking two primary certifications that are required for entering EU and US markets. The European Union Catch Certificate (EUCC), issued by the Taiwanese government, certifies compliance with EU regulations for exporting fish products to the EU. The Marine Stewardship Council certificate (MSC) is important for selling to large retailers in the US. Beyond these two certifications, the Fishery Improvement Program (FIP), overseen by the Taiwanese government in collaboration with the Sustainable Fisheries Partnership (SFP), showcases the efforts to enhance the overall fishing industry. Regarding the number of certified vessels, Taiwan currently hosts 301 FIP members, 136 holders of EUCC certification, and 32 business members certified by MSC.

The EU is the biggest importer of fishing products, globally, and Taiwanese businesses are looking to increase their engagement with the EU market. Holding EUCC certification helps verify that fish have been caught using operations that meet the requirements of the EU, and this helps open the EU market to Taiwanese fish. For exporting fish to the EU, both the fishing vessel and the carrier vessel must pass an EU hygiene inspection, be registered on the EU SANCO list, and provide a detailed list of vessel position reporting (VMS), logbooks, catch reports, and transshipment.¹⁸⁹

Currently, 106 vessels in the Taiwanese fleet are certified with the EUCC, including 66 squid and saury vessels, 21 longline fishing vessels, 18 seine fishing vessels, and one transshipping vessel.¹⁹⁰ The issuance process for the EUCC involves multiple inspections, and 56 fishing vessels which initiated the process failed to receive EUCC certification; however, the specific reasons for this remain unclear.

The Marine Stewardship Council (MSC) certification is the most recognised sustainability certification in the world, yet it remains the least held by Taiwanese vessel owners. International retail giants like IKEA and Walmart predominantly sell products that hold an MSC certification, highlighting the significant trading potential that comes with achieving this status. However, obtaining MSC certification is a rigorous and costly process. It involves meeting 25 performance indicators across three major principles, with the application costs ranging from 15,000 to 120,000 USD, representing a substantial investment for vessel owners aiming to access major retail markets.¹⁹¹

As of 2017, the global quantity of seafood products certified by MSC reached 9.5 million metric tonnes, constituting 11% of the global marine seafood production that year (approximately 85 million metric tonnes).¹⁹² For those seeking to procure or sell MSC-certified products, the limited availability of these products restricts user adoption and hampers the potential for creating a larger market. This scarcity may actually serve to diminish the influence of seafood certification systems.¹⁹³

¹⁸⁷ US Custom and Border Protection. (2020). Retrieved from <https://www.cbp.gov/newsroom/national-media-release/cbp-issues-withhold-release-order-seafood-harvested-forced-labor>

¹⁸⁸ US Department of Labor. Bureau of International Labor Affairs. List of Goods Produced by Child Labor or Forced Labor. <https://www.dol.gov/agencies/ilab/reports/child-labor/list-of-goods>

¹⁸⁹ Fisheries agency. (2024). Instructions for Completing the European Union Catch Certificate (EUCC) for Offshore Exports. Retrieved from <https://www.rootlaw.com.tw/Attach/L-Doc/A040270061031700-1070425-2000-002.pdf>

¹⁹⁰ Fisheries agency. (2024). 甲類(符合歐盟規定)外銷登錄遠洋漁船衛生評鑑名單. Retrieved from https://www.faa.gov.tw/view.php?theme=RL_of_FVAF_Et_EU&subtheme=&id=37

¹⁹¹ Marine Stewardship Council. (2024). Fishery certification guide. Retrieved from <https://www.msc.org/for-business/fisheries/fishery-certification-guide>

¹⁹² Marine Stewardship Council. (2024). Fishery certification guide. Retrieved from <https://www.msc.org/for-business/fisheries/fishery-certification-guide>

¹⁹³ Yo (2019). Gradually Achieving Certification: A New Milestone in Marine Sustainability [循序漸進獲認證·海洋永續新里程]. Ministry of Agriculture. Issue no.321. Retrieved from <https://www.moa.gov.tw/ws.php?id=2509301>

Currently, in Taiwan, several trading companies, such as Yen & Brother's Enterprise and FCF, have started to source fish from vessels with MSC certification. FCF, which leads the Western Pacific Sustainable Tuna Alliance (WPSTA), secured the Marine Stewardship Council (MSC) Chain of Custody (CoC) certification in 2018,¹⁹⁴ with verification provided by the Taiwan branch of Bureau Veritas. Compared to individual vessel owners, large trading entities have the necessary resources to navigate the intricate application process on behalf of vessel owners, and they can afford the annual fees required for vessel owners to renew and maintain the certification.

In the financial year of 2023, TTLA supported 247 of its member vessels that are part of the Fishery Improvement Program (FIP) or MSC to apply for subsidies.¹⁹⁵ Currently, three projects are ongoing in Taiwan: Mahi-Mahi FIP,¹⁹⁶ Ocean Albacore Tuna Longline FIP,¹⁹⁷ Southwest Atlantic Shortfin Squid FIP, and Fue Shin Fishery Indian Ocean Longline Tuna FIP.¹⁹⁸

Although the FIP has a wide range of participants, vessel owners are the crucial players who undertake the major task of improving the overall fishery industry. The FIP aims to enhance fisheries through methods and measures that ensure sustainable fishing practices, thereby promoting the perpetual viability of the industry. Its goals include fostering international fisheries cooperation, expanding fishing operations, securing international fishing rights, addressing incidents involving fishing vessels and crew abroad, collecting fisheries data, and implementing vessel monitoring systems.¹⁹⁹

FIP exhibits considerable diversity, and presently, there exists no standardised approach applicable across all programs.²⁰⁰ The implementation of FIPs varies significantly depending on factors such as the characteristics of the fishing industry, the scope of coverage, and the level of interest and engagement among participants. Therefore, the measurement of the improvements is challenging.



¹⁹⁴ FCF. (2018). FCF signing agreements to provide tuna certified with MSC. [豐群水產簽署協議，提供MSC漁業認證的鮪魚]. Retrieved from <https://fcf.com.tw/cn/fcf-signs-agreement-to-provide-msc-certified-tuna/>

¹⁹⁵ <http://www.ttl.org.tw/t-download.aspx>

¹⁹⁶ Taiwan FIP Portal (2015). The Status of Hsin-Kang Mahi Longline FIP. Retrieved from http://www.taiwanfip.tw/fip_introduction_en.html

¹⁹⁷ Fishery Radio Station. (2023). Retrieved from <https://www.youtube.com/watch?v=vTPF5hFy0MA>

¹⁹⁸ Ocean Outcomes. (2023). Fue Shin Fishery Indian Ocean Longline Tuna. Retrieved from FIP <https://www.oceanoutcomes.org/what-we-do/tuna/fue-shin-fishery-indian-ocean-longline-tuna-fip/>

¹⁹⁹ Yo (2019). 循序漸進獲認證：海洋永續新里程 [Gradually Achieving Certification: A New Milestone in Marine Sustainability]. Ministry of Agriculture. Issue no.321. Retrieved from <https://www.moa.gov.tw/ws.php?id=2509301>

²⁰⁰ Yo (2019). 循序漸進獲認證：海洋永續新里程 [Gradually Achieving Certification: A New Milestone in Marine Sustainability]. Ministry of Agriculture. Issue no.321. Retrieved from <https://www.moa.gov.tw/ws.php?id=2509301>



5.2. The gambling nature of fishing and costs of all kinds

As mentioned above, Taiwanese vessel owners have limited control over the sale price of their products, and it's often difficult for them to predict the profit margin for each of their fishing trips. The nature of distant water fishing is akin to gambling, where profits (or losses) are determined by various factors that are often beyond the owners' control.

Through interviews and informal discussions with Taiwanese vessel owners and other industry stakeholders, such as government officers, our team gained insight into the challenges faced by vessel owners in Taiwan's distant water fishing industry. From our research, it became clear that the past two years (2021-2023) have been particularly challenging for vessel owners, with over half of our interviewees referencing one or more of the following issues as being at the centre of this adversity: **inflated fuel prices, the increasing of workers' salaries, and the depreciation of the Japanese Yen**. These three issues emerged as being the most significant challenges vessel owners were currently facing, resulting in an increased loss in profits over the past two years.

“Our biggest pressure is whether or not we make a profit. Three factors affect our earnings. The first is the cost, which includes fuel, crew salaries, and bait. Currently, fuel prices are the highest among these costs.”²⁰¹

The vessel's operational costs revolve around the costs of fuel, crew members' salaries, and bait for the fish, previously equally constituting a third of the overall costs. However, according to our research, vessel owners are at present facing an increase in operational costs due to a rise in both fuel prices and crews' salaries.²⁰² Notably, fuel prices have increased to account for 40-50% of a vessel's operational costs.²⁰³ Reports from vessel owners our team interviewed placed the price of fuel at 20 to 60 million New Taiwanese Dollars a year, depending on the size and operational realities of the vessel.²⁰⁴ For example, a vessel operating an ultra-low-temperature freezer (-112 to -123°F/-80 to -86°C) or fishing in colder waters will consume more fuel, thereby increasing operational costs. The rise in fuel prices can be partially attributed to the war between Russia and Ukraine which has resulted in inflated fuel prices across the globe.²⁰⁵ In general, Taiwanese vessel owners do

²⁰¹ Interview with VO_04 on 13th December 2023.

²⁰² Interview with VO_04 on 13th December 2023.

²⁰³ Interview with VO_03 on 12th December 2023 and VO_04 on 13th December 2023.

²⁰⁴ Interview with VO_03 on 12th December 2023 and VO_04 on 13th December 2023.

²⁰⁵ Arndt, C., Diao, X., Dorosh, P., Pauw, K., & Thurlow, J. The Ukraine war and rising commodity prices: Implications for developing countries. *Global Food Security*, 36. <https://doi.org/10.1016/j.gfs.2023.100680>.

not actively engage in price negotiation with traders, even as rising operational costs continue to squeeze their profitability. One vessel owner expressed this frustration, stating, “For small-scale fishing companies like ours dealing with a large company (trader), we basically have no bargaining power,” and added, “There’s usually not much room for negotiation.”²⁰⁶ This highlights the ongoing power imbalance between the vessel owners and the seafood traders, as well as the difficulties for vessel owners to maintain their profitability.

Besides rising fuel prices, crew members’ salaries also increased following a 2022 amendment to the “Regulations on the Authorization and Management of Overseas Employment of Foreign Crew Members” by the Taiwan Fisheries Agency. This amendment saw the minimum wage for migrant fishers raised from 450 USD to 550 USD per month.²⁰⁷ Although the amendment is specifically regarding migrant fishers, an anonymous government official our team spoke with alleged this increase in salary also extends to vessel captains, as well as fishers. Furthermore, vessel owners engaged in this research claimed that crew members, including fishers, could also receive bonuses. A vessel owner in Nanfangao, Taiwan, stated that migrant fishers could receive a bonus of 20,000 NTD to 30,000 NTD after returning from a four-month trip at sea.”²⁰⁸ Shared by a member of a DWFA:

“The personnel costs account for about 30% of the owner’s total costs, and 70% if you add the previous fuel costs. Other expenses include the cost of bait, such as squid for catching bigeye tuna, which is less likely to rot when thrown into the sea and can last for a long time.”²⁰⁹

Increased minimum wage combines with other pressures to further strain the financial viability of an owner’s business. As described by one vessel owner our team spoke with: “Ultimately, this year’s situation is very bad, and the increase in personnel costs has created a pessimistic outlook...when fishing vessel operations are already losing money, higher wages only further discourage ships from going out to sea.”²¹⁰ The minimum wage increase mentioned above leads to an additional cost of at least USD 1,200 per worker for vessel operations. A distant water fishing vessel typically employs between eight to 60 workers, depending on its size, which means operational costs could rise by USD 9,600 to 72,000 per year or more.

If vessels do not go out to sea it is likely that the fishers working onboard those vessels will have their contracts terminated and be sent back home. Labour costs are universally a concern for business owners, and we note that more economic research would be necessary to assess the magnitude of rising labour costs’ effect on reducing the number of fishing voyages. However, it is possible that raising the minimum wage without addressing or taking into consideration vessel owners’ overall financial situation could have adverse effects on the fishers’ employment.

The third factor driving vessel owners to see a loss in profits is the depreciation of the Japanese yen. The currency has depreciated over the past two years – from 115 Yen to the US Dollar in early 2022²¹¹ to just under 152 to the US Dollar in March 2024²¹² – a more than 30 percent devaluation, and its lowest level in 34 years. As explained above, much of the Taiwanese distant water fishing catch is sold in Japan, which is one of the most important markets for the more profitable sashimi as well as a market with one of the lowest trade barriers. However, due to the depreciation of the Japanese yen, vessel owners often have to sell their catches for less or go elsewhere, resulting in an overall loss in profits.

²⁰⁶ Interview with VO_06 on 13th December 2023.

²⁰⁷ Fisheries agency. (2024). The wage of migrant fisher of Taiwan’s distant water fisheries fishing vessel will be paid directly, and the monthly minimum wage raised to US\$ 550. Retrieved from https://en.fa.gov.tw/view.php?theme=Press_Release&subtheme=&id=79

²⁰⁸ Interview with VO_01 on 7th December 2023.

²⁰⁹ Interview with VO_03 on 12th December 2023.

²¹⁰ Interview with VO_03 on 12th December 2023.

²¹¹ Xinhua. (2024). Explainer: Where Japanese yen to go after hitting 34-year low. Retrieved from <https://english.news.cn/20240424/45bd8f19f5fc4354a0eb78e40fe8b7a1/c.html#:~:text=From%20early%202022%20to%20October,prop%20up%20the%20exchange%20rate.>

²¹² Kim, L. (2024). Japanese yen drops to lowest in 34 years despite BOJ rate hike. Retrieved from <https://asia.nikkei.com/Business/Markets/Currencies/Japanese-yen-drops-to-lowest-in-34-years-despite-BOJ-rate-hike>

An unpredictable market can also result in increased operational costs for vessel owners with the vessel's fuel consumption increasing in order to store catch for extended periods in the refrigerators onboard. Some vessel owners may also have to pay long-term stay fees in the ports.²¹³

“Because the current consumption market in Japan is not good, additional costs can easily arise. For fishing vessels, it's not necessarily the case that the first to arrive can sell first. By the time the fishing vessel can sell the fish, the price may have dropped from 800 yen two months ago to 650 yen, resulting in losses. Additionally, in Japan, ship owners need to pay for electricity and long-term stay fees, all of which are borne by the ship owners. Electricity fees refer to the cost of maintaining the temperature of the refrigerated hold.”²¹⁴



²¹³ Interview with VO_03 on 12th December 2023.

²¹⁴ Interview with VO_03 on 12th December 2023.



5.3. The constant desire for stable and skilled crew

Under the Retention of Foreign Intermediate Skilled Workforce Program, targeting white-collar workers, the government allows employers to retain skilled workers who have worked in Taiwan for 6 or more years. Workers can also apply for permanent residency in Taiwan after working in the country for another 5 years. Fishers are not subject to this policy, which falls under the Employment Service Act of the Ministry of Labor, whilst the fishing industry adheres to regulations as set by the Fisheries Agency under the Ministry of Agriculture. Furthermore, the salary standard required to obtain permanent residency in Taiwan is much higher than fishers' salaries.

Vessel owners our research team spoke with expressed the desire for such a policy, to address their struggles with labour shortages, and they supported the Fisheries Agency advocating for granting permanent residency to migrant fishers. Vessel owners expressed the difficulties they face in retaining workers, as explained by the Secretary General of a Taiwanese fishing association:

“We strongly support the idea and hope that the government can help us retain these foreign crew members. We are currently facing a shortage of personnel, so we are not stringent on crew welfare. In fact, some of our ship owners are willing to cover the round-trip airfare for foreign crew members when their contracts expire. They also make it clear to the crew that if they choose to return to work on the same ship, the vessel owner is willing to increase their monthly salary by a certain amount.”²¹⁵

According to the team's interviews, few Taiwanese youths are willing to join the distant water fishing industry. Whilst no regulations are preventing foreign workers from becoming captains on Taiwanese vessels, captains must first obtain a “Certificate of Fishing Vessel Office for First Level Captain,” which requires a certain level of Chinese language abilities, since the entire process is in Chinese. Inevitably, this prevents many foreign workers from obtaining such certification, resulting in a growing shortage of captains.

²¹⁵ Interview with VO_04 on 13th December 2023.



A Taiwanese fishing vessel with a visible device installed for using satellite Wi-Fi

“Many of our current veteran captains may face the dilemma of not finding successors in the future. My observation is that there are already many Filipino, Vietnamese, and even Chinese officers²¹⁶ who are capable of being captains.”²¹⁷

A shortage of manpower inevitably creates operational challenges for vessel owners. With a shortage of trained crew members, vessel owners may be inclined to hire less experienced individuals. Not only does this increase the vessel owners’ costs as they pay for the necessary training of new crew members, but it also puts the workers at higher risk if they work on fishing vessels without appropriate knowledge of the occupational hazards that may arise.

²¹⁶ Note, this interviewee does in fact hire Chinese captains, as there is no regulation preventing foreign nationals to become captain, but rather the language barrier is what prevents them from doing so.

²¹⁷ Interview with VO_03 on 12th December 2023.



Conclusion

This research begins with the desire to understand Taiwanese fishing vessel owners, aiming to enable systemic change that promotes better working conditions for workers, especially migrant fishermen from Indonesia and the Philippines. We analysed extensive government and industry-published data and interviewed numerous relevant stakeholders. The previous chapters have provided in-depth details of our findings. In conclusion, we want to highlight two major themes:

1 The Inherent Tension Between the Industry's Downward Trajectory and Increased Requirements for Workers' Welfare

There is a clear policy trend toward downsizing the Taiwanese distant water fishing industry, driven by factors such as global environmental concerns leading to limits on fishing quotas. While this transition is necessary for the industry's sustainability, it poses challenges for vessel owners, who struggle to prioritise worker protections amidst shrinking business prospects.

Unlike industries that governments actively support, the Taiwanese government is allowing and even encouraging weaker businesses to exit the fishing sector. Historically, the government heavily subsidised the fishing industry, particularly during its peak. Although some subsidies remain, the industry is contracting, and the size of the Taiwanese fleet is shrinking annually.

The pressure from a downsizing industry should never excuse vessel owners from providing adequate labour rights to fishermen. However, vessel owners, especially those with smaller profit margins, may resist policies that seem non-essential to their operations, such as providing Wi-Fi for migrant fishermen at sea.

For example, smaller tuna vessels in the Taiwan Tuna Longline Association (TTLA) face more significant risks and lower profits, making them less likely to embrace such policies compared to larger vessels.

This inherent tension arises when the industry is less profitable while workers demand and deserve better rights. Industry stakeholders may reject NGO proposals for worker welfare unless these proposals are tied to the industry's survival or profitability.

The good news is that the industry's downsizing won't be permanent. It's expected to lead to a smaller but more efficient industry, enabling all remaining players to thrive and sustain profitability. The Taiwanese government aims to maintain a smaller but better fleet rather than eliminate the industry. This means the number of workers will likely decrease alongside the number of vessels. However, as the industry reaches a new equilibrium, workers are likely to receive better protection of their rights and improved pay.

2 **The Common Feeling of Powerlessness Among Vessel Owners in the Global Fishing Supply Chain**

Many traditional Taiwanese vessel owners are older adults, often in their 60s or 70s, with limited education (primary or secondary only). They typically don't speak English, lack knowledge of global end buyers and international standards, and have minimal understanding of technology and management. While there are more powerful owners in the sector, such as those of purse seine vessels, the feeling of powerlessness is prevalent among the majority.

Despite being able to run fishing companies that catch sufficient fish, these owners are heavily dependent on other stakeholders for crucial business operations. They rely on traders familiar with foreign markets to sell their catch and on recruitment agencies for human resource management. They often lack the capacity for innovation, continuing operations based on traditional know-how until new government policies force them to change practices, such as clocking in and recording working hours.

One significant effect of this powerlessness is seen in vessel owners' limited ability to negotiate the selling price of their catch. Much like migrant workers who accept terms set by owners, vessel owners accept the purchasing prices offered by traders. Major traders, having expanded their vertical integration (e.g., FCF acquiring Bumble Bee), enjoy higher profit margins and greater bargaining power. Although some traders support their suppliers through Fishery Improvement Projects (FIP) or supplier funds, these activities increase vessel owners' dependency on specific traders and reduce their bargaining power. Traders avoid the risks of running fishing operations by not owning fleets while determining fish prices for their suppliers.

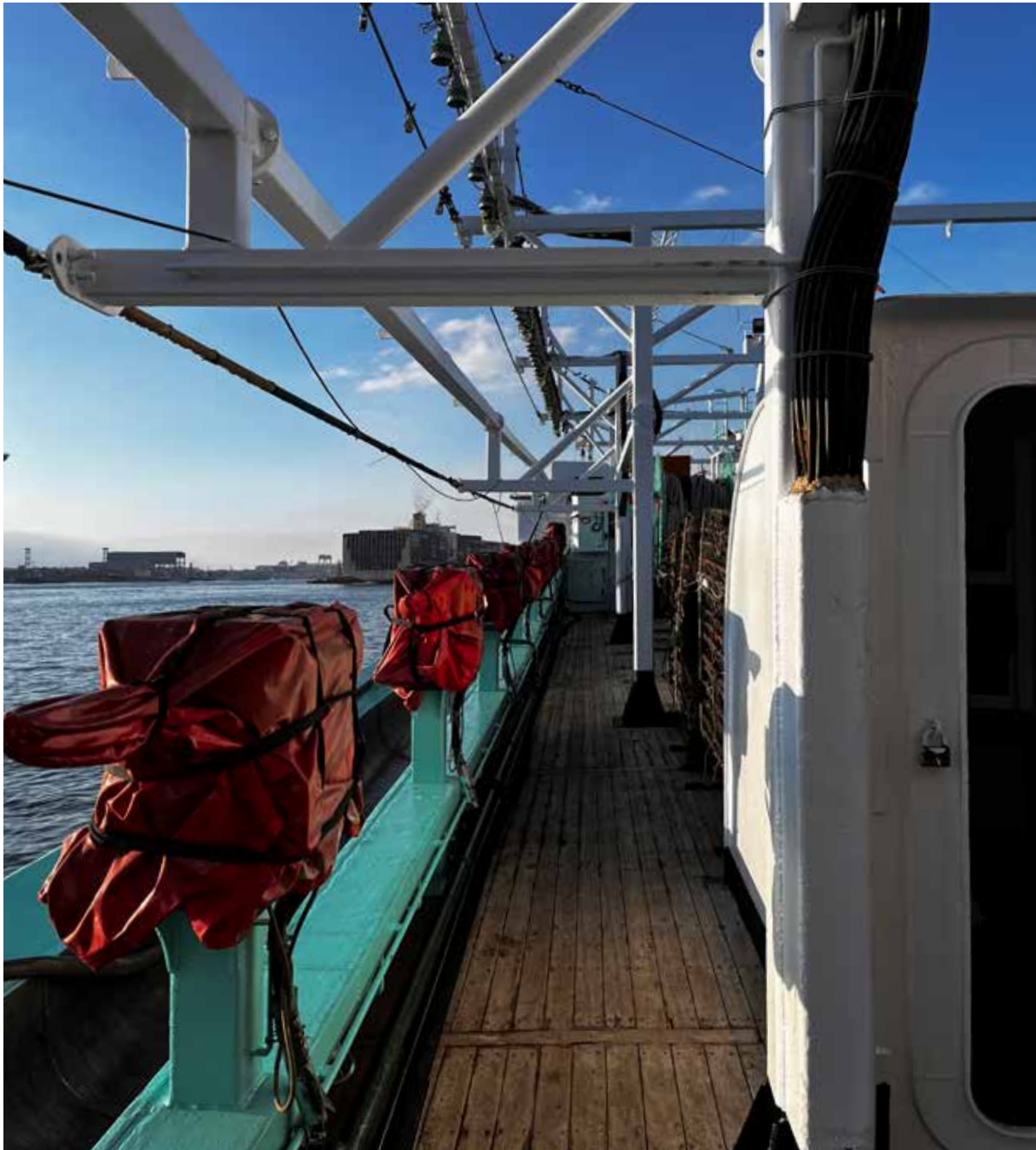
Our analysis shows hope lies with the younger generation of vessel owners. Younger owners in their 20s, 30s, and 40s, who are starting to take on more decision-making powers, tend to have higher educational backgrounds (bachelor's and master's degrees), speak at least basic English, and have a better understanding of basic labour and human rights. These younger vessel owners are more innovative (e.g., building small longline vessels compliant with C188) and are generally more receptive to new trends in the sector.

Accounting vessel owners' profile for systemic change

We believe that enabling systemic change requires considering all stakeholders' positions and interests. While progress has been made in improving migrant fishermen's rights and welfare in Taiwan over the past decades, resistance and setbacks remain evident. With the data and analysis presented in this report, we hope future advocacy planning and activities will account for the profile of vessel owners in Taiwan to enable effective systemic change.

Thailand once had a distant water fishing fleet, but after widespread exposure to industry abuses and international pressure, the Thai government decided to reduce its distant water fishing industry. This decision forced many vessel owners and workers to find new livelihoods, with other countries taking over the market share.

In Taiwan's case, identifying the key players among vessel owners is essential for advocating a more sustainable fishing industry that benefits both workers and vessel owners. While we acknowledge the industry complexities vessel owners face, this does not absolve them of responsibility in upholding labour rights or imply that they have done everything possible to improve working conditions on their vessels. Our aim is to drive systemic change that ensures the industry's sustainability while safeguarding the rights and welfare of migrant fishermen. By addressing the challenges and holding all stakeholders accountable, we can work towards meaningful and lasting improvements in the Taiwanese fishing sector.





Appendix

Longline fishing

Longline fishing, a predominant method globally, involves two primary phases: setting and hauling the line. During setting, as the vessel moves slowly, the casting machine adjusts the speed of the line based on the hook's depth, deploying hooks at fixed intervals with a signalling beep.²¹⁸ Historically, hooks and baits were manually cast, but recent advancements have seen the adoption of automatic bait dispensers.²¹⁹ The total line length can extend between 150 to 200 kilometres.²²⁰

Based on international standards and Taiwanese domestic laws, “tuna longline fishing vessel” means any fishing vessel targeting highly migratory fish species such as tunas, billfishes, sharks, skipjacks, or mahi mahi with longline fishing gears.²²¹ Within this fishing method sector, vessels can be classified by size and refrigeration methods, which significantly influence the operation styles, management styles, and working experience of the migrant fishermen.

Purse Seine Vessels

Since 1984, Taiwan has employed American-style purse seiners, including speedboats and helicopters for collaborative fishing methods, primarily to harvest skipjack tuna in the Central and Western Pacific Oceans.²²² These vessels are typically between 1,000 and 1,800 tonnes and typically operate with a crew of 30 to 40 people.²²³

Purse seiners catch skipjack tuna for canning, and generally do not operate at sea for more than three months at a time due to regulatory constraints and the limitations of their fishing techniques.²²⁴ These vessels

²¹⁸ TTA. (2024). Longline Fishing Method. Retrieved from <http://www.tuna.org.tw/index.php/utf/tlrm>

²¹⁹ Harvest.(2024). The Introduction of the fishing method. Retrieved from <https://www.agriharvest.tw/archives/112116>

²²⁰ TTA.(2024). Longline Fishing Method. Retrieved from <http://www.tuna.org.tw/index.php/utf/tlrm>

²²¹ LAWS & REGULATIONS DATABASE, MINISTRY OF JUSTICE. (2024). Regulations for Tuna Longline Fishing Vessels Proceeding to the Atlantic Ocean for Fishing Operation. Retrieved from <https://law.moj.gov.tw/ENG/LawClass/LawAll.aspx?pcode=M0050057>

²²² TTPSA. (2024). The Origin and the background of TTPSA. Retrieved from <http://www.ttpsa.org.tw/bt2.php?bid=1&btwoid=3>

²²³ TTPSA. (2024). The Origin and the background of TTPSA. Retrieved from <http://www.ttpsa.org.tw/bt2.php?bid=1&btwoid=3>

²²⁴ Fisheries agency. (2024). Measures for the Management of Pacific Ocean Operations by Fishing Vessels Engaged in Tuna Longline Fishing or Tuna Trawling. Retrieved from https://www.fa.gov.tw/view.php?theme=OceanShippingAct_LAW&subtheme=&id=50

quickly reach full capacity, after which they offload their catches onto refrigerated carriers, which then transport the tuna to major canning areas for large-scale canned tuna production. The purse seiner stands out as a highly efficient fishing machine, featuring fully mechanised fishing equipment which includes a robust main engine capable of rapid turbo-powered bursts for fast and effective encircling of fish, multiple electronic fish-finding tools, seabird radar, and other sophisticated devices.²²⁵ They also use an extensive knotted seine, about 2,000 metres long and 200 metres deep, for encircling large volumes of catch.²²⁶

While it is not possible to determine how much higher, the profit margins of purse seine vessels are generally higher than longliners, while the initial investment of vessel building is also much higher than tuna longliners. The higher profit margin means purse seiners are more responsive in adapting to international standards and trends. For example, almost all Taiwanese purse seine vessels (24 out of 27) have provided Wi-Fi access to their crew.²²⁷

Squid and Saury Vessels

Squid and Saury vessels are dual-purpose vessels that alternate between squid and saury fishing by changing fishing gears upon return to Qianzhen Fishing Port. From December to May, these vessels operate in the southwest Atlantic to catch squid.²²⁸ After the first half of the year, they return to port for a month-long rest before being alternated to catch saury in the northwest Atlantic from July to November.²²⁹ Currently, the Squid Fishing Association has 108 squid fishing boats, 76 of which operate in this dual manner, while the remaining 32 focus solely on catching saury,²³⁰ mainly due to being rejected for authorization to enter the Falkland Island water where squid fishing grounds are.

The squid fishing industry in Taiwan began in 1971 with subsidies from the Council of Agriculture Revival, initially in the seas around Japan and New Zealand, and expanded to the northwest Pacific and the Falkland Islands by 1984.²³¹ Those vessels are around 900 to 1,300 tonnes and host crews of 50 to 80 per ship.²³²

Refrigeration: Traditional versus Ultra-Low Temperature Longline Fishing

Traditionally, tuna fish is kept in minus 20-degree freezers at sea, which can prevent the fish from rotting but cannot keep its colour and freshness. Since 1980, many vessels in Taiwan, both the small scale and larger scales, have upgraded their refrigeration system to the ultra-low temperature system.

For ultra-low temperature longliners, the fish is immediately processed once caught, including bloodletting, scraping off the fish scales, and removing the internal organs. Processed fish is placed in an ultra-low temperature freezer at minus 60 degrees Celsius for more than 48 hours before being transferred to normal freezers for storage. The purpose of the immediate processing is to retain freshness and colour, as tuna processed this way can be considered sashimi grade, which means it is safe for raw consumption and can be sold for higher prices.²³³ According to Taiwanese law, all big-eye tuna must be caught by ultra-low temperature longline vessels.

Note that better refrigeration systems mean the fish have a higher value compared to fish caught with traditional systems. However, stronger refrigeration systems also require vessels to use more fuel, which means vessel owners are more sensitive to fuel prices, beyond the operation of sailing alone.

²²⁵ Harvest.(2024). The Introduction of the fishing method. Retrieved from <https://www.agriharvest.tw/archives/112116>

²²⁶ Harvest.(2024). The Introduction of the fishing method. Retrieved from <https://www.agriharvest.tw/archives/112116>

²²⁷ https://www.happyfisherman.tw/page.php?menu_id=28&mod=ad_search

²²⁸ Harvest.(2024). The Introduction of the fishing method. Retrieved from <https://www.agriharvest.tw/archives/112116>

²²⁹ Harvest.(2024). The Introduction of the fishing method. Retrieved from <https://www.agriharvest.tw/archives/112116>

²³⁰ Harvest.(2024).Taiwan's Offshore Fishing Industry "Quality" Enhancement: Breaking through the Industry's Three Major Challenges and Moving Toward a Steady and Sustainable Course. Retrieved from <https://www.agriharvest.tw/archives/112123>

²³¹ TSSFA.(2024).The Origin of TSSFA.Retrieved from <http://www.squid.org.tw/index.php/about-us/reg>

²³² TSSFA.(2024).The Squid Longline Fishing. <http://www.squid.org.tw/index.php/cms>

²³³ TTA.(2024). Introduction to Longline Tuna Fishing. Retrieved from <http://www.tuna.org.tw/index.php/about-us/ooe>



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