Labour, Climate and Fish.

An assessment of the modern slavery-climate change nexus in Thailand's fisheries

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Abstract

Southeast Asian fisheries, considered one of the most diverse marine ecosystems in the world, have been under scrutiny for the presence of poor labour practices and exploitation of fishers. These fisheries have also been coming under increased pressure from the effects of climate change, which is likely to exacerbate marine ecosystem changes that already face threats from illegal, unregulated and unreported (IUU) fishing alongside climate pressures. Here we present a case study of Thailand's fishing sector through the lens of assessing previous programmes to tackle forced labour and research from the work of International Justice Mission – a global organization that protects people in poverty from violence by partnering with local authorities including from forced labour and labour trafficking in Cambodia, Thailand and Myanmar. This scoping study applies a 'climate lens' to explore the interaction between social and ecological frameworks and understand the impacts of environmental degradation and climate change exacerbating forced labour within the Thai fishing sector. The research finds that there are bilateral connections between forced labour and environmental degradation wherein they can influence and reinforce each other in the Thai fishing sector. It also finds that climate change can impact both these frameworks – as a stress multiplier on vulnerable communities susceptible to being trafficked, and significantly changing marine ecosystems over time. It finds that actions from key stakeholders including policy makers, implementers, civil society organisations (CSOs), researchers, including further empirical analysis to establish the interaction between modern slavery – environmental degradation – climate change, is needed to tackle the nexus effectively in the Thai fishing industry.

Future Opportunities

- Studies on the impacts of climate change conditions on marine ecosystems and the long-term impacts on fishing patterns, communities, and working conditions.
- Improving and sustaining laws and regulations for the Thai fishing sector, through the integration of a climate lens in policy and programming.
- Providing support and training for migrant fishers' pre-departure from their home country and post-arrival to the Thai fishing sector, including developing trusted networks for reporting abuses – continuing and evolving from several previous and ongoing regional projects.
- Future research on the impact of government interventions in Thailand from 2015-2016 which sought to prevent IUU and labour trafficking should be completed to improve future activities.

Introduction and Background

It is now a globally accepted reality that the coastal diversity of the in-shores of Southeast Asia have witnessed significant overfishing (Pomeroy 2016). Illegal, Unreported and Unregulated (IUU) fishing poses a medium to high risk for almost 64% of the fisheries resource base in the region (DeRidder and Nindang 2018; Clark et. al. 2019) also enabling forced labour and exploitation of workers on vessels (Yea and Stringer 2021). IUU is deeply connected with lax regulations and inadequate monitoring, control and surveillance mechanisms of countries sharing the waters (EJF 2019), including Thailand, Vietnam, and Philippines; these risks can result in intensified marine resource depletion and human rights abuse onboard fleets (EJF 2023a). With Southeast Asian fishery as a whole having witnessed overfishing as a threat to biodiversity levels, particularly those species who live in-shore (Pomeroy 2012), social-ecological factors can combine in situations of IUU fishing. Selig et al. (2022) noted in a survey of ports focused on IUU fishing and labour abuses on-board vessels that ports in Southeast Asia were medium to high risk.

The fisheries industry in the Gulf of Thailand is vital to the wider Southeast Asian economy. It has also however attracted considerable international scrutiny over the past decade, including from the research community, and civil society organizations, related to both social and environmental vulnerabilities. Much of the focus in the Thai fishing sector has involved assessing forced labour and labour trafficking (e.g., Sylwester 2014; Chantavanich et al. 2016; Seo 2018; Stringer et al. 2022).

In 2022, Thailand ranked sixth in global seafood products exports valuing up to $641 million predicted to rise to $1.1 billion by 2026, with an annual average growth predicted to be 3.35% between 2023-2027 (EJF 2023b). Despite these promising futuristic economic outputs, contemporary research on Thailand's fisheries industry has been revealing how modern slavery and environmental degradation (Brown et al. 2021) shape each other in an arguably catalytic and bilateral fashion.

- Thailand is a **Tier 2 country** on the US TIP Report (2024).
- Links have been made between poor working conditions, climate change, and **overfishing**.
- **90%** of workers in the sector are migrants (Hodal et al. 2018).
- Top seafood commodities exported from Thailand: canned tuna, canned sardines, **processed shrimp**, prawn, and squid (USDA 2018).
- Improvements made to the sector since exposés in the mid-2010s.

This commentary will contribute to the existing and growing narrative of the interdependence of social and ecological frameworks, in this case forced labour and environmental degradation in the Thai fishing industry discussed in the following sections. To support this endeavour, this commentary draws from existing published evidence, as well as research from International Justice Mission's (IJM) work on combatting

forced labour in Asia Pacific region. By applying a climate lens retrospectively, a reassessment of the social-ecological risks in the Thai fisheries are undertaken. The climate lens applied is built on the foundation of the theory of the 'modern slavery-climate change nexus' (Coelho 2016; O'Connell 2021; Brown et al. 2021; Jackson et al. 2021). This theoretical development is a multi-directional assessment of the drivers and resulting outcomes from modern slavery upon the environment, and vice versa. The commentary then explores the interaction of the social and ecological frameworks against climate change drivers.

This commentary aims at encouraging critical research to identify distinct pathways of co-relation and conflation between the two for integrating strategies and adopting a holistic framework to combat the 'modern slavery-climate change nexus' in the sector and region.

The Ecological Framework: Thailand's Fisheries and Environmental Degradation

Environmental degradation on the local scale in Thailand can be attributed to the introduction of trawling technology on vessels in the 1960s. It coincided with the international demand for seafood and fish species more commonly found in the deep waters of the Gulf. Yet, this technological development had the undesired effect of capturing unwanted species through by-catch (including crabs and squid) as well as the desired shrimp (Sylwester 2014). As a result, significant damage was caused to in-shore coastal areas – causing changes to the seabed acting as nurseries and breeding grounds for fish and habitats for endangered marine species, to muddy beds - thereby altering breeding groups and biodiversity (Clark et al. 2019).

Trawling capacity can be described as a textbook example of rapid modernisation and industrialisation within fishery, and in Thailand this has been associated with overfishing activities (EJF 2015a). When coupled with the formation of 'boom and bust development' within target export markets, an unregulated and environmentally extractive degrading of the stocks and habitats occurred (Sylwester 2014). Further, the catch per unit effort (CPUE) declined by more than 86% from 1966 in the Gulf of Thailand and the Andaman Sea making it one of the most overfished regions in the world (EJF 2015b).

Species composition changes have also occurred alongside volumes of stocks declining. More low value 'trash fish' species and increasing amounts of juveniles of commercially viable species are instead being captured, thereby perpetuating a cycle of decimation of marine resources (EJF 2015a). In a survey conducted amongst fisher communities near the Andaman cost of Thailand, 87% respondents felt that marine resources and the number of fish in the sea had declined (Bennett et al. 2014). Ecological extinction caused by overfishing precedes all other pervasive human disturbance to coastal ecosystems, including pollution, degradation of water quality, and anthropogenic climate change (Clark et al. 2019).

As a result of depleted availability of marine resources near the coasts, trawlers have had to venture further into the ocean, and vessels have grown in size. Technological advancements have enabled these changes thereby allowing vessels to carry larger amounts of fuel, store catch for longer periods (through refrigeration), and off-load catch at sea (through transhipment) (Sylwester 2014). Vessels have had to increase their 'fishing effort' to remain viable in an economic environment where declining catch revenues had amplified competition amongst companies exploiting depleting stocks (Clark et al. 2019). Thus, there are compelling connections between declining fish stocks, growing economic demand and pressure, IUU fishing and increased information around forced labour and poor working conditions within the Thai fishing industry (Brown et al. 2021; Sylwester 2014; Decker Sparks 2018).

Further, a diversification of the structure of the fisheries has also taken place. Declining stocks have meant aquaculture of seafood and fish species has occurred (Brown et al. 2021); with production of coastal aquaculture of marine species including giant tiger shrimp (40% of all brackish production) and green mussels (44% of all coastal aquaculture) (FAO 2024). Yet the risks associated with these sectors are not as commonly researched as those in marine capture fisheries. For example, the risks to aquaculture and processing of seafood are highlighted in Cockayne (2021) – with reference to the risks in Thailand explicitly referred to. Migrant labourers exposed to cases of debt bondage were identified as those at risk of exploitative labour practices. As the global fishing industry shifts towards a primarily aquaculture-based production system (Pernet and Browman 2021), it will also be necessary to address the risks of forced labour and environmental degradation within these systems.

The Social Framework: Thailand's Fisheries and Modern Slavery

Drivers of risks in the fisheries sector of Thailand are often associated with the vulnerability factors migrant workers face towards modern slavery. Sites of vulnerability noted for migrant workers include – but are not limited to – border crossings, irregular migration routes, conflict zones, hazard regions and areas impacted by climate change, and ships (David et al. 2019). Such risks in Thailand are aligned with a period of economic growth from 1987 to 1996 which saw an influx of migrant workers (UN 2019) from neighbouring countries including Laos, Cambodia and Myanmar. Many of these migrant workers faced exploitative conditions in the Thai fishing industry (Brown et al. 2021). It has been noted that economic inequalities and the desire for better financial circumstances were viewed as key migration drivers toward Thailand despite evidence of exploitation (IJM and RCG 2022a).

Since 2016, IJM has been working across Thailand to combat labour trafficking through strengthening the Thai government's capacity to respond to the crimes while ensuring strong support to survivors. Multiple reports of illegal fishing and exploitative labour conditions on-board fishing vessels have made international headlines, for example through multiple exposés by the Associated Press (see McDowell et al. 2015; Mason and Mendoza 2015; Mendoza 2015a, 2015b, 2015c; Mason et al. 2015; Htusan and Mason 2015). Thailand was both noted in these investigations as being a destination country for migrant workers who were deceived, as the flag country for the vessel exploited fishers were working on, and as a place where exploitative working practices were occurring both on-board vessels and within the processing factories on land.

Subsequently, IJM (supported by the Walmart Foundation) conducted a series of studies to understand the nuances and prevalence of the crime in the industry by studying the experiences of Thai, Burmese and Cambodian fishers in Thailand (Issara Institute and IJM 2017). The study findings noted that 37.9% of fishers who had worked in the Thai fishing industry from 2011 to 2016 had been trafficked, 14.1% experienced physical abuse first-hand, 31.5% had witnessed abuse of crewmates whilst at sea and 76.2% of fishers had accrued debt prior to starting their employment (through either an employer, broker, or net supervisor). The study also pointed out that profit margins from fishing were potentially slim due to trawlers fuel demands, lower catch-value, fluctuating raw material prices and harsher administrative scrutiny presenting labour wages as an avenue for cost cutting. Such risks have been echoed in other fisheries globally too (see Tickler et al. 2018; Stanford COS and Stanford SLS 2020).

The negative experiences of fishers because of exploitation led to the emergence of an acute labour shortage, and vessel owners pivoted to partner with traffickers to secure labour through coercive and deceptive means (IJM and RCG 2022a). Further, owners kept vessels at sea for longer periods ensuring boats were away from the scrutiny of officials – thus causing a dual decimation of the environment and the fishers under the eyes of the captain (Sylwester 2014).

The risks sparked a series of interventions– many in response to pressures from the international community (see **Box 1**). The Thai government made improvements in laws and regulations related to forced labour in the seafood sector. This included increasing investigations, prosecutions and convictions in trafficking cases, imposing stricter penalties on traffickers, and closure of businesses involving forced labour (US Department of State 2016).

To assess the landscape of these interventions, IJM conducted studies on the prevalence of forced labour across sectors in Thailand, victimization of at-risk Cambodian and Burmese workers in Thailand and the criminal justice systems response to the crime in 2021. One study noted that, since the previous sets of research, formal channels for migration had been set up through memorandums of understanding between the Royal Government of Thailand and neighbouring countries allowing workers to search for employment through safe routes. However, the study found that despite these channels, many workers still arrive in Thailand by paying heavy recruitment fees to agents whether through informal or formal channels. Their disadvantageous positions are compounded by language barriers, lack of knowledge of rights and access to remedy and structural discrimination, which together leave them vulnerable to exploitative labour practices ranging from minor rights violations to labour trafficking situations (IJM and RCG 2022a).

A notable forced labour indicator in the Thai fishing sector is 'bondage', where the employee must get the employers signature to be relieved of work, but the employer may be reluctant to let them go on account of labour shortage or due to costs incurred on recruiting them (IJM and RCG 2022a). For example, one Burmese fisher relayed how he had to pay 20,000 baht to get his passport back from his employer to repay the costs of his recruitment. The study noted that fewer instances of severe violence had been documented on-board vessels and that violations were now more in the form of wage retention/bank card retention and non-payment of social security, whose frequency, severity and level would determine whether they were victims of forced labour/labour trafficking. The study also showed that the Government's *Port In Port Out* (PIPO) inspection system – that requires boats to report for inspections upon departing and arrival at port (HRW 2018) – had mixed reviews on its effectiveness in controlling distant water fishing fleets as many reported vessels having changed flags to avoid scrutiny from Thai officials (IJM and RCG 2022a).

Box 1. Exploring Governance Mechanisms and Response

Fisheries in Thailand have undergone a scrutiny because of reported labour abuses and overfishing. This has drawn responses from key import markets. For example, the EU issued a 'yellow' card to the sector related IUU fishing (European Commission 2015). Despite this, United States had placed Thailand on Tier 2 owing to their quick response to the international media attention on the issue. Further, the United States placed Thailand on the Tier 2 Watchlist for lack of improvements from the previous reporting period and failure in identifying victims and prosecuting traffickers (U.S. Department of State 2021) (see **Figure 1**).

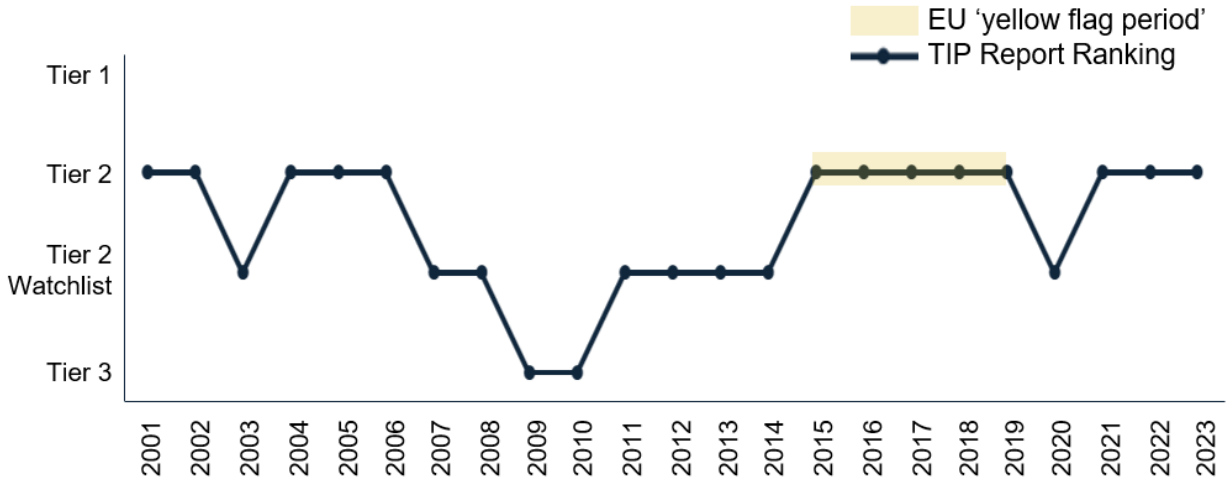

Figure 1: Timeline of the international actions from the United States and European Union to address risks of forced labour and human trafficking in Thailand, including risks in the fisheries sector.

Work has been undertaken and progress has been made in the Thai fisheries sector, with the EU removing its yellow card in 2019 (European Commission 2019), and Kadfak and Linke (2021) arguing that the bi-lateral dialogue engaged in between EU-Thailand was in part fuelled by the need to engage with market concerns, as well as considering sustainability issues domestically. Further, the governance work that has been undertaken in the country on labour rights has meant that Thailand now sits within Tier 2 of the TIP report (U.S. Department of State 2024), having been upgraded. Both positive changes on the environmental and labour rights sides of the sector demonstrate improvements can be made.

Risks to cross-border movements for migrant workers linked to forced labour investigated by IJM with NORC (2022) estimated the scale of harm posed to at-risk migrant workers in Thailand across industries. Using the ILO forced labour indicators, researchers from NORC estimated that every 17 out of 100 migrant workers from Cambodia and 18 out of 100 migrant workers from Myanmar were likely to experience a combination of 'menace of penalty' and 'involuntariness violations' during their period of employment in Thailand. The estimated rates of victimization on the scale of harm ranged from 1.32-4.24% of respondents experiencing the most severe forms of violation (to physical integrity), to approximately 27-30% of migrant worker in the fishing industry experiencing abusive and/or coercive employment practices. The costs to exit such

situations of exploitation were also investigated. For example, the study estimated that 19.74% of Cambodian migrant workers and 22.27% of Burmese migrant workers in sampled areas in Thailand encountered one of the abuses measured in the study and were unable to quit because of fears of serious consequences. This included confiscation of personally accrued earnings, valuables, identification documents, deliberate efforts to ruin someone's reputation, or threats to call in the authorities (IJM and NORC 2022).

The exploitation of labour on fishing vessels that was catalysed by illegal fishing practices causing widespread environmental degradation, continues to exist and are further exacerbated by overarching climate change drivers discussed below.

Thailand's Fisheries: Environmental Degradation, Forced Labour and Climate Change

Emerging research has identified three overarching recurrent, non-linear and multi-directional patterns of interaction between modern slavery, environmental degradation and climate change. The current social-ecological conditions within Thailand's fisheries can be framed through these patterns of interaction based on evidence gathered and assessed through an environmental lens and aligned through the reinforcing and constraining factors between modern slavery and the environment (noted by Decker Sparks et al. 2021) (see **Figure 2**).

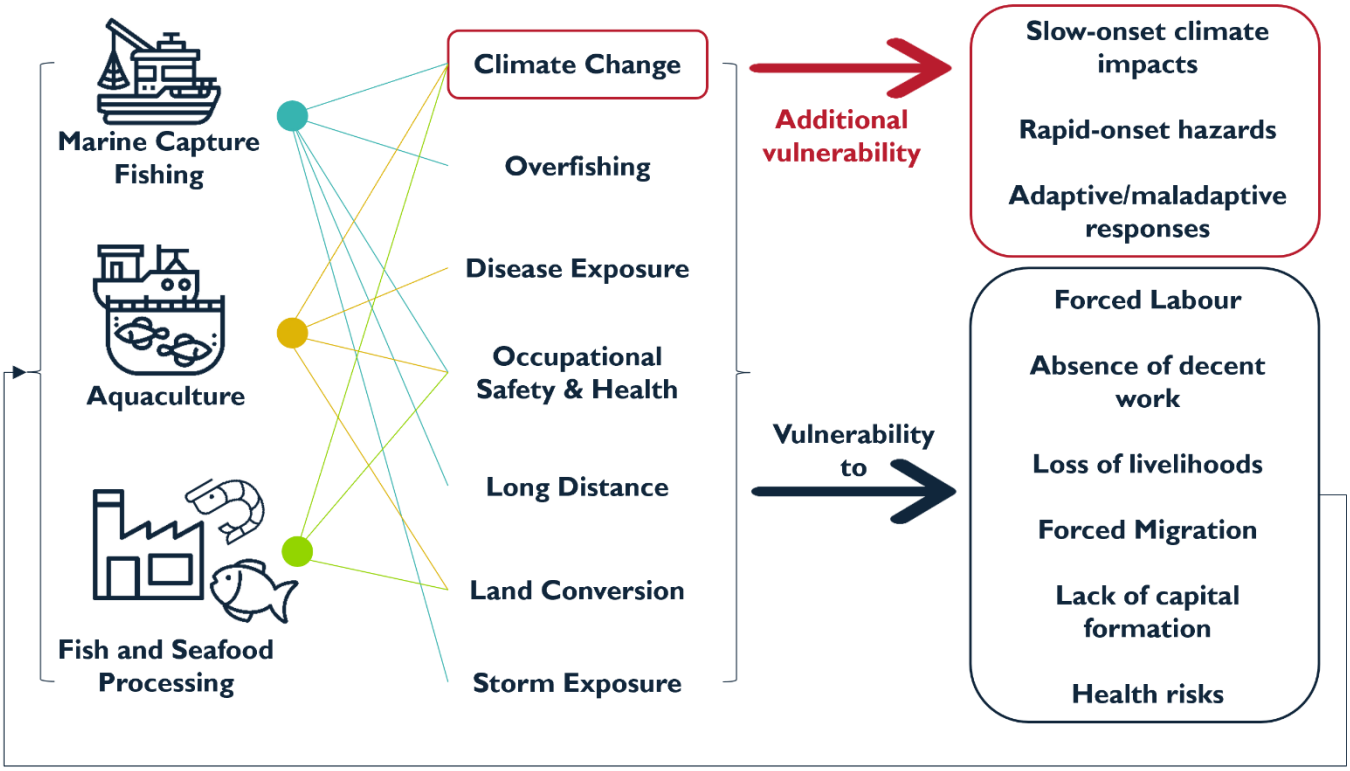

Figure 2: Adaptation of the modern slavery-environmental degradation-climate change nexus from Jackson et al. (2021) to demonstrate the dynamic connections between the three core areas of the fisheries sector in Thailand – marine capture, aquaculture and fish/seafood processing; and the intersections this has with environmental and socio-economic factors that can lead to risks of forced labour within the varied elements of the industry.

First, workers subjected to modern slavery are compelled to participate in environmental criminal activities. In the Thai fishing industry, fishers have previously been forced to work under exploitative conditions on long haul vessels and been compelled to overfish (EJF 2015a).

Second, environmental degradation and unsustainable extraction creates a pull factor for vulnerable workers into modern slavery as the sector creates a demand for cheap labour. In the Thai fishing industry, overfishing using technology harmful to the marine ecosystem has led to trawlers having to venture into deeper waters away from depleted coastlines, the costs of which are offset by recruiting and trafficking vulnerable fishermen through deceptive practises (Issara Institute and IJM 2017; Yea and Stringer 2021).

Finally, in the third pattern, environmental degradation/climate change drives modern slavery. As climate change threatens to increase the intensity of extreme weather events, it acts as a stress multiplier leaving many without adequate social and legal protections exposed and vulnerable to trafficking (Bharadwaj et al. 2022; Haenlein 2023). For example, labour deficits resulting from Thai fishermen abandoning boats post Typhoon Gay in 1989, were noted by the IOM (2011) to be linked to a spike in illegal recruitment of Burmese, Cambodian and few workers from Laos who had coincidentally migrated from their countries to Thailand at the time.

Further, Bennett et al. (2014) noted that coastal communities were "experiencing climate change on a daily basis" through several factors including exposure to more frequent and intense storms, changing weather patterns particularly seasonal rainfall, flooding, sea-level rise, and erosion.

Hence, environmental pressures experienced due to climate change magnify the existing vulnerabilities that coastal populations face. When combined with recruitment of migrant workers, they have the potential to amplify fisher exposure and susceptibility to being trafficked. Bharadwaj et al. (2022) highlighted climate change as a "stress multiplier" and Jackson (2023) noted that compounding exposure to hazards and climate change drivers increases the vulnerabilities that communities face.

Alongside overfishing, climate change also exacerbates declines in fish stocks. Anthropogenic carbon emissions have impacted marine ecosystems at unprecedented levels (IPCC 2021). As the ocean ecosystems respond to rising temperatures, increased acidification, and decreasing levels of oxygen, it alters patterns of marine stock availability, location and abundance, and the overall health of the marine ecosystem (Lam et al. 2020; World Bank 2022). Changing temperatures or ocean warming beyond an organism's optimal range will cause physiological response that affect 'biological performance including growth, reproduction, and survival. Climate-related impacts may also lead to shifts in phenology (timing of seasonal biological events)' (Urmila and Tai 2020).

According to the Intergovernmental Panel on Climate Change (IPCC 2023), temperature changes, in particular, are causing species to move poleward once tolerable thermal temperatures are breached. Reports in May 2024 raised an alarm on the unprecedented sea surface temperatures along the eastern coast of the Gulf reaching 32.73°C (90.91°F) – this has been years in the making and has impacted the coral reefs and threatens the existence of marine life (Setboonsarng 2024). Recent reports of declining fish stocks along the coast due to warmer sea temperatures highlight the re-emergence of exposure to risks of illegal fishing and labour activities as witnessed previously (Young et al. 2023).

These declines in fish stocks, caused by overfishing and climate change drivers, have also been linked to changing vessel behaviour in Thailand, especially prior to the decommissioning of illegal IUU vessels by authorities under the 2015-16 reforms. For instance, vessels must venture further into deep waters to chase the catch, and there is thus increased potential for instances of labour trafficking to go un-noticed (Haenlein 2023) alongside risks of poor working conditions. Researchers note this as creating a self-perpetuating feedback loop where forced labour is a response to declines in stock to maintain competitive profits, and catching activities become longer with increased effort linked to poor working conditions and overfishing (Decker Sparks 2018; Bales 2016). As CPUE declines, small scale and large-scale fisheries burn more fuel to maintain the same level of stocks and release more carbon dioxide (CO_2) and pollutants into the atmosphere continuing climate change (Ferrer et al. 2022).

Overfishing contributes to climate change while also disrupting the oceans' ability to mitigate its effects. Apart from contributing to greenhouse gas emissions, overfishing also has the impact of disturbing and damaging the carbon rich seabed through the use of bottom trawling technology and contact gears (Andersen et al. 2024). This leads to the redistribution of sediments and nutrients on the seabed which are an important store for carbon in the oceans. On disturbance, organic carbon can be remineralised into CO_2 and released into the water column which otherwise could have been sequestered for years. The movement on the seabed can also disrupt and alter biogeochemical cycling (Andersen et al. 2024) which is crucial to sustaining life in the oceans and regulating the earth's climate (Plymouth Marine Laboratory 2024). A study has found that 50% of the aqueous CO_2 released by trawling activities are released into the atmosphere

within 9 years of the trawling event (Atwood et al. 2024). The level of emissions trawling produces put it at par with the aviation industry (Steadman et al. 2021).

As noted by Brown et al. (2021) "the entanglement of illegal fishing and labour exploitation in Thailand acts to further perpetuate the decline of fish stocks and ecosystem collapse in the region". However, critiques to addressing risks to fishers through current frameworks must be considered; the framing of redress in many of these cases places the business of capturing fish at the heart of programming with activities to support improvements in fisher welfare secondary (Williams and Decker Sparks 2023); such considerations require thoughtful integration and reframing when seeking to holistically address issues of labour and environment in the fishing sector.

Conclusion

The government's introduction of stricter reforms in 2015-16 marked progress in Thailand in the effort to tackle issues of forced labour. Positive steps, such as the movement from the Tier 2 Watchlist to Tier 2 in the recent Trafficking in Persons Reports (US Department of State 2022, 2023, 2024) have demonstrated these improvements. IJM and RCG's (2022a) report too found that the most severe cases of forced labour including violence appear to have reduced. However, with recent legal amendments introduced to deregulate the fishing industry in play, there is a dire need to ensure existing laws are studied to strengthen and not diminish legal protections. More can be done at the national and regional levels to address climate change as a driver and outcome of forced labour and environmental degradation to improve and build protection and sustainability efforts in the Thai fishing industry.

While the IPCC provides that restoring overexploited fisheries can reduce the negative effects of climate change on fisheries (IPCC 2023), there is potential for IUU fishing to adapt to the threats posed by a warming world to increase reliance on informal labour networks and human trafficking (Haenlein 2023).

The drive for illegal profit in the Thai fishing industry not only puts the survival of those working on the fishing fleets in danger but also compromises coastal and marine ecosystems – together co-creating direct and indirect impacts on environmental degradation, modern slavery and climate change. The same may be inferred of countries in the region sharing similar coastlines and socio-economic contexts. By exploring further sector specific research and applying policy and practice, changes through the lens of the modern slavery and climate change nexus can further provide a tremendous opportunity for Thailand's fish sector to emerge as a regional and global leader on sustainability in fisheries to protect people and the environment.

The abovementioned discussions along with the following projected implications. First, studies estimating that one-third of the world's fish stocks are overexploited and declining faster than the rate at which they can be reproduced (Ritchie and Roser 2021). Second, projected increase in global seafood demand (FAO 2022). Third, workers vulnerability to labour trafficking in Thailand being a matter of concern (IJM and RCG 2022a; IJM and NORC 2022). Fourth, impacts of weather events and long-term climate change outcomes such as rising sea temperatures becoming apparent – make it vital and urgent for policy makers, implementers, civil society groups, to imminently start addressing the multi-directional relationship between environmental degradation, forced labour and climate change. This integrated, informed and holistic approach is necessary to arrest any further damage and safeguard humanity and the environment, in Thailand and beyond.

Future Opportunities

- Research / Policy
    - Study on the impact of government interventions from 2015-2016 which sought to prevent IUU, and labour trafficking on (decreasing) overfishing activities, recovery of fish stocks should be undertaken to identify areas for additional future improvements in developing and future activities in the sector.

- Research
  - Study on the impact of rising sea temperatures on marine life in the Gulf of Thailand over the last two decades to understand the long-term impacts upon fishing patterns, community opportunities and choices, and working conditions.
- Advocacy / Policy
  - Bilateral labour migration agreements from the home countries of fishers with Thailand should be encouraged (as noted in the ILO's Ship to Shore Southeast Asia findings; ILO 2024) to improve the safety of migrant fishers travelling into Thailand for work. IJM and NORC note that Thailand and Cambodia have recently signed a Standard Operating Procedures (SOP) to bridge the gap between policy and practise. The study encourages for the consistent implementation of these SOPs while incorporating stakeholder feedback for effectiveness.
  - Advocacy to sustain and improve present laws in Thailand to regulate the fishing industry, as well as encouraging the inclusion of a climate lens within programming activities to support fishers and integration of climate in future policies.
  - Research done by IJM and RCG on cross border responses to labour trafficking (IJM and RCG 2022b) found that forced labour violations have a higher rate of prevalence in certain industries like fisheries. Further, fishermen face a higher rate of deceptive employment practises and unsafe work environments. As climate change drivers threaten to increase existent vulnerabilities of migrant workers, the Thai government could focus their inspection efforts on industries such as the fisheries facing these threats and adopt industry specific inspection standards to spot signs of trafficking. E.g., restricted movement in construction sites and coercive contracts in factories.
  - Support and training for migrant fishers before entering the Thailand fishing sector for work; including relaying the need for a formalised migration process that includes protections for fishers upon their arrival and during their working terms. Including knowledge of where to report issues if they are experiencing exploitation.
  - A protocol for improved data collection, storage and management on forced labour cases across the Thai judicial system would aid measuring and performance objectives but also help in identifying cases of labour trafficking in IUUs and aid further research on overfishing and climate change (IJM and RCG 2022b).
  - The movement of migrant workers within Thailand and Cambodia necessitates the setting up of a joint investigative taskforce for proactive and reactive cross border investigations into forced labour cases and introduction of joint cross border capacity building trainings for different roles in local authorities to foster mutual trust and developing of networks (IJM and RCG 2022b).

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