Worker Protections at Sea: Climate change and life aboard distant water fishing vessels

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Abstract

This short essay discusses the impact of rising temperatures on workers' health in ocean-based labour sectors, such as industrial fishing, which have attracted little scholarly and activist attention. It provides some reflections on the relationship between a heating planet and work by exploring how climate change can lead to injury and death among distant water fishing workers. I focus on two climate change outcomes that impact fishers: the increasing salinity of water and the dramatic reduction in fish species.

Suggested citation: S Yea, 'Worker Protections at Sea: Climate change and life aboard distant water fishing vessels', *Anti-Trafficking Review*, issue 25, 2025, pp. 153-157, https://doi.org/10.14197/atr.201225259

Rising temperatures have dramatically impacted workers' health in many land-based sectors. Heat stress, in particular, has intensified vulnerabilities of those who already live and work in precarious situations, including migrant workers. Brick kilns, agriculture, and mining have attracted particular scrutiny in a growing body of scholarship.[1] This short essay focuses on ocean-based labour sectors, such as industrial fishing, which have attracted far less scholarly and activist attention. It draws from recent (2022–2024) research with Filipino men who worked on industrial distant water fishing vessels owned by Taiwanese and Chinese fishing fleets, as well as with their left-behind family members. It is my hope that these

[1] L Parsons, 'Thermal Inequality in a Changing Climate: Heat, Mobility, and Precarity in the Cambodian Brick Sector', in N Natarajan and L Parsons (eds.), *Climate Change in the Global Workplace*, Routledge, London, 2021, pp. 15–31; C Z de Lima *et al.*, 'Heat Stress on Agricultural Workers Exacerbates Crop Impacts of Climate Change', *Environmental Research Letters*, vol. 16, no. 4, 2021, pp. 044020, https://doi.org/10.1088/1748-9326/abeb9f; S M Taggart *et al.*, 'Heat Exposure as a Cause of Injury and Illness in Mine Industry Workers, *Annals of Work Exposures and Health*, vol. 68, issue 3, 2024, pp. 325–331, https://doi.org/10.1093/annweh/wxae011.

men's and their families' experiences begin to fill the gap of knowledge about this labour sector that is rife with egregious exploitation in large part because it is out of sight.[2] In so doing, this essay provides some reflection on the relationship between a heating planet and work by exploring how climate change can lead to injury and death among distant water fishing workers. In this sense, I focus on two climate change outcomes that impact fishers:[3] the increasing salinity of water and the dramatic reduction in fish species. These two outcomes are connected in the context of industrial fishing; vessels must travel further out to sea and remain at sea for longer periods in order to land enough catch to remain profitable. This impacts the availability and quality of both fresh water and fresh food, with deleterious health consequences for migrant fishing crews.

There are over 100,000 men working in distant water fishing; yet there is no database or repository of deaths and injuries among those working in this labour sector. The lack of data reflects these workers' disposability as well as the challenge of enforcing worker protections in the middle of the ocean. The human and labour rights abuses endured by migrant fishers in the sector have now been widely documented, including in two reports I penned in 2010 and 2013, respectively. This documentation continues to highlight fraudulent and deceptive recruitment practices, wrongful deployment, wage theft, degrading and substandard living and working conditions, and high levels of abuse and violence in the workplace.[4]

I see the interviews I have been conducting over the past several years with fishermen, former fishermen, and their family members as a critical intervention that is beginning to fill in a lack of data. During interviews and informal conversations with fishermen and their wives and mothers, the subject of serious illnesses and deaths repeatedly came up. It is startling how often they referred to deaths on board.[5] In the scant scholarly research or reports by international

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2 D Tinkler *et al.* 'Modern Slavery and the Race to Fish', *Nature Communications*, vol. 9, 2018, article no. 4643, https://doi.org/10.1038/s41467-018-07118-9.

3 'Fisher' is the term formally applied to those who work in paid roles on fishing vessels, as outlined in the *Maritime Labour Convention*. For further discussion, see L Carey, 'The Maritime Labour Convention 2006: The Seafarer and the Fisher', *Australian and New Zealand Maritime Law Journal*, vol. 31, no. 1, 2017, pp. 14–36.

4 S Yea, *Troubled Waters: Trafficking of Filipino Men into the Long Haul Fishing Industry through Singapore*, Transient Workers Count 2 (TWC2), Singapore, 2010; S Yea, *Diluted Justice: Protection and Redress for Trafficked Fishermen in Asia*, Transient Workers Count 2 (TWC2), Singapore, 2013.

5 This sector is a gendered and ethnic labour niche, with men from the Philippines and Indonesia constituting most of the crew. These patterns reflect perceptions of the difficulty and danger associated with this work, and the common view that women would not be capable of undertaking the work or enduring the precarious conditions at sea.

organisations—for example, on migrant fishing crews from Indonesia and the Philippines[6]—there is little to no mention of explicit connections between deaths, illnesses, and climate change.

Qualitative data from my research as well as media reports touch on two main causes of serious illness or death: kidney or renal failure and beriberi, a disease caused by thiamine (or Vitamin B1) deficiency, which primarily affects the nervous and cardiovascular systems.[7] Consequently, the links to climate change are both direct (as the incidence of kidney disorders is caused by the excessive consumption of increasingly salty water) and indirect (in the case of beriberi, which is caused by a lack of decent, nutritious food and safe drinking water).

Tropical and sub-tropical regions are experiencing rapidly rising salt levels.[8] Increasing salination not only has profoundly affected marine life, but also those working and living on the water. With a limited supply of fresh, drinkable water on fishing vessels, fishing crews are drinking this seawater with increasing concentrations of salt. In my interviews with long-time fishers, they describe that on previous stints on distant water fishing vessels the salt water was 'tolerable', but that now the water has become 'undrinkable'. Building a scholarly archive through the detailed narratives of the fishers and their families is crucial to understanding life, and death, on board these vessels.

The Filipino men who participated in my study revealed that they were only given one litre of bottled water per day to be shared amongst four men, or none at all. When the supply of fresh water runs out or is reserved only for senior crew and the captain, workers must try to filter seawater to drink as best they can. Although water filtration devices are plentiful and affordable, in keeping with other cost-cutting measures in deep water fishing fleets, no such devices are available for crew. Even though the men know that drinking increasingly salty seawater would eventually make them sick, they had no choice but to drink the

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6 N S Pocock *et al.*, 'Occupational, Physical, Sexual and Mental Health and Violence among Migrant and Trafficked Commercial Fishers and Seafarers from the Greater Mekong Subregion (GMS): Systematic Review', *Global Health Research and Policy*, vol. 3, 2018, pp. 1–13, https://doi.org/10.1186/s41256-018-0083-x.

7 Drinking excessive amounts of salt water is a key cause of kidney failure. Because salt water is hypertonic (has a higher salt concentration than bodily fluids), this puts pressure on kidneys to filter and remove the excess salt from the body. Failure to expel the salt can result in severe dehydration.

8 J Ran *et al.*, 'Quantifying the Contribution of Temperature, Salinity, and Climate Change to Sea Level Rise in the Pacific Ocean: 2005-2019', *Frontiers in Marine Science*, vol. 10, 2023, pp. 1200883, https://doi.org/10.3389/fmars.2023.1200883; P Dalpadado *et al.*, 'Rapid Climate Change Alters the Environment and Biological Production of the Indian Ocean', *Science of the Total Environment*, vol. 906, 2024, pp. 167342, https://doi.org/10.1016/j.scitotenv.2023.167342.

'undrinkable' water. Shockingly, they also told of resorting to drinking rusty water from the old air-conditioning units on board, with equally severe health effects.

In the 2024 Manila International Dialogue on Human Trafficking, I raised the issue of safe drinking water when I gave a keynote presentation on the human rights of migrant fishers, suggesting that equipping vessels with cheap filtration devices could save countless lives. Whilst representatives of the Philippine government, foreign embassies, international organisations, local NGOs, and legal firms were all present at this event, not one followed up with a commitment to help support such a project. Some argued that it would further the exploitation of migrant fishers by deflecting the cost of maintaining workers onto third-sector organisations and funding. The argument was lost on me.

Beriberi is one of the most commonly occurring illnesses on distant water fishing vessels. It displays a range of discrete symptoms depending on whether it is 'wet' or 'dry'. In the former cases, those affected suffer a combination of heart and circulatory system failures, presenting as heart failure, oedema (swelling in the joints), shortness of breath, rapid heart rate, and palpitations. Wet beriberi presents most commonly for fishing crew workers, although dry beriberi has also been reported. In these cases, those suffering the condition experience weakness, atrophy (thinning and loss of muscle tissue), numbness and loss of feeling in extremities, and paralysis. If properly treated through Vitamin B supplements and dietary adjustments, beriberi does not necessarily become serious. Prevention through availability of decent food is the key to reducing the incidence of beriberi on fishing vessels.

The fishing vessels, however, can only carry a limited supply of fresh food, including fruit and vegetables. Feeder vessels transport supplies and equipment such as needed for vessel repairs, so that the fishing vessels themselves can remain at sea almost indefinitely. The increasing reliance on feeder vessels to maintain profitability amongst Taiwanese, Chinese, and South Korean fleets in particular is related to the crisis of profitability that is, itself, primarily an effect of climate change. As Tinker *et al.* argue, rising fuel costs coupled with declining fish stocks and changing fish pathways due to the effects of ocean warming and salination have conspired to force distant water fishing vessels further out to sea for longer periods, with attempts to minimise return to port due to the fuel costs involved.[9] The problems associated with the use of feeder vessels are numerous and have been discussed extensively in relation to both illegal, unregulated, and unreported (IUU) fishing and human rights of fishers, as remaining at sea for extended periods places fishers in unfavourable and exploitative working situations. Even where feeder vessels carry supplies of fresh food, its distribution among crew is highly uneven. Filipino crew with whom I spoke related how meat and vegetables

[9] Tinkler *et al.*

would first be served to senior crew, usually Chinese. Stale, expired food and, sometimes, rice comprise the staples of crew members' diet. Punishment for minor infringements of the strict and regimented work environment could also often be meted out as denial of food. Sometimes crew would be so hungry that they would eat fish catch raw.

The aim of this short provocation was to encourage researchers interested in precarious migrant work in all its forms to look at the ways climate change intersects with working conditions in a wide range of sectors, including sea-based work. Precarious workers are often most affected and least able to remedy the ill health effects of conditions produced under changing climate conditions in offshore fishing work. These relationships can be both direct (excessive consumption of increasingly salty water) and indirect (less availability of decent, nutritious food and safe drinking water). The loss of life or negative impacts on the future capacity to work have profound long-term implications for the fishers themselves, as well as their families, which are also yet to be more fully examined. These implications act to reinforce and intensify their health vulnerabilities under climate change.

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