



Policy brief

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Estimating the impact of irregular and unsustainable fishing of distant-water fishing fleets in the Philippines

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Abstract

This policy brief examines the Philippines' fishing fleet and the foreign fleets operating in its Exclusive Economic Zone (EEZ), focusing on fleet composition, vessel types, ownership, and the challenges posed by illegal, unreported and unregulated (IUU) fishing activities in the area. The paper highlights the prevalence of artisanal vessels and the significant presence of foreign fleets, particularly from China, Vietnam, and Taiwan, Province of China. It also addresses concerns about the opacity of vessel ownership and the impact of large-scale foreign fishing on local artisanal fishers and marine biodiversity. The paper concludes with recommendations to enhance management and sustainability practices, address legal and ethical concerns, engage communities, protect the environment, and improve transparency and international cooperation.

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About this publication

This policy brief provides synthesised information from the report *Fishy Business: estimating the impact of irregular and unsustainable fishing of distant-water fishing fleets in Ecuador, Ghana, Peru, the Philippines and Senegal* (Gutierrez et al., 2024). It was produced as part of the UNDP Ocean Innovation Challenge.

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Introduction

This policy brief examines the Philippines' fishing fleet and the foreign fleets operating in its Exclusive Economic Zone (EEZ), synthesising information from the report *Fishy Business: estimating the impact of irregular and unsustainable fishing of distant-water fishing fleets in Ecuador, Ghana, Peru, the Philippines and Senegal* (Gutierrez et al., 2024). The paper highlights the prevalence of artisanal vessels and the significant presence of foreign fleets, particularly from China, Vietnam, and Taiwan, Province of China. It also addresses concerns about the opacity of vessel ownership and the impact of large-scale foreign fishing on local artisanal fishers and marine biodiversity. It outlines the significant impacts of illegal, unreported and unregulated (IUU) fishing activities on this extremely important sector for the Philippines and highlights the already-precarious economic situation of fisherfolk in the area.

Geographical and biological context of the Philippines

The Philippines, an archipelago comprising 7,641 islands, is a significant fishing nation. The country is surrounded by the South China Sea to the west, the Luzon Strait to the north, and the Celebes Sea to the south. Its extensive coastline and marine waters sit at the heart of the Coral Triangle, the global centre of marine biodiversity, which hosts an astonishing 60% of the world's known marine species (SEAFDEC, 2022). The marine habitats of the Philippines are among the most biodiverse globally, with only 1.7% of its seas designated as marine protected areas. The fisheries sector is divided into commercial, municipal, and aquaculture categories, with the Bureau of Fisheries and Aquatic Resources (BFAR) overseeing the management and conservation of these resources (ibid.). In 2020, fisheries contributed 1.52% to the national GDP, and the average Filipino consumed 34.28 kg/year of fish and fishery products (ibid.). However, the marine biodiversity faces threats from overfishing, destructive fishing practices, and plastic pollution, with a reported 29% decline in fish stocks and significant damage to marine habitats (Garry, 2019).

Fleet composition and types of vessels

We have built a relational database, drawn from expertise in fisheries, specialised literature, and the FishSpektrum Krakken® V15.0 high-granularity data registry. Krakken® V15.0 is the largest registry of fishing vessels, owned by the Seattle-based Allen Institute for AI (a non-profit research institute founded by Microsoft co-founder Paul Allen). Our analysis shows that the Philippine fishing fleet is largely composed of vessels of unknown types (85.55%), presumed to be artisanal. The identified types include fish carriers (5.85%), auxiliary vessels (3.94%), seiners (2.20%), and longliners (1.80%). The foreign fleet operating in the Philippine EEZ consists mainly of vessels of

unknown type (29.52%), longliners (29.15%), seiners (19.93%), and trawlers (11.07%). Most foreign vessels are flagged to China (25.09%), Taiwan, Province of China (21.03%), Japan (16.24%), and South Korea (7.01%).

Ownership, concerns and other issues

The investigation indicates that domestic companies such as RBL Fishing Corp and Frabelle Fishing Corp are significant players in the domestic and international seining industry. There is substantial international participation in the domestic fleet, with 67 vessels linked to Chinese interests. The foreign fleet also includes vessels previously blacklisted or implicated in unsustainable practices. The opacity in ownership and types of vessels, particularly for the foreign fleet, poses challenges for regulation and enforcement.

Impact estimation methodology

The methodology for estimating the economic impacts of firms involved in wrongdoing, irregularities, or unsustainable behaviour in the fisheries sector across the five case study countries – Ecuador, Peru, Ghana, Senegal, and the Philippines – represents a comprehensive approach to assessing the potential consequences of such activities. This multi-faceted evaluation, structured into three main chapters in the full report, delves into the specifics of tonnage conversion, payload calculation, price determination, and the consequent estimations of economic impact, GDP impacts, employment impacts, and poverty impacts.

- 1. Tonnage conversion and payload calculation:** The methodology begins with a tonnage conversion formula to transition from gross tonnage (GT) to net tonnage (NT), reflecting the vessel's capacity utilised for fish storage. This step is critical for understanding the economic output and efficiency of the fishing sector. Payload, representing the quantity of fish carried, is calculated using the formula:
$$\text{Payload} = \text{NT} - (\text{NT} \times 60\%)$$
This calculation is pivotal for assessing the volume of fish caught and its potential economic contribution.
- 2. Price determination and economic impact estimation:** The average price per fish species aids in determining the financial value of the catch. The economic impact attributable to the fishing activities of these firms is then estimated by multiplying the payload by the fish price and a constant factor, offering insights into the financial significance of the fishing industry within each country's economy.

3. **GDP impacts:** The GDP contribution per ton of fish caught is calculated by first determining the total GDP contribution of the fisheries sector and then dividing this by the total catch in tons. This method facilitates a comparison of the economic efficiency and productivity of the fisheries sector across different countries, highlighting the variance in economic impact due to the activities of the examined firms.
4. **Employment and poverty impacts:** The analysis extends to evaluating the employment impacts, presenting the number of direct and indirect workers per ton of caught fish, disaggregated by country. This approach provides a granular view of the workforce involved in fishing and related activities, shedding light on the sector's employment significance. Furthermore, the text explores the relationship between GDP growth and poverty reduction, employing the growth elasticity of poverty (GEP) to estimate potential impacts on poverty rates in the case study countries. This methodology offers a nuanced understanding of how economic changes within the fisheries sector can influence broader socio-economic conditions, including employment and poverty levels.

Economic importance of fishing in the Philippines

The fishing industry in the Philippines is of paramount economic importance. This sector not only significantly contributes to the nation's GDP but also plays a critical role in employment, export revenues, and addressing poverty among the population engaged in fishing activities.

The 2016 to 2021 period saw a notable peak in fish and fishery product exports in 2017, demonstrating the sector's potential to contribute to the national economy through foreign exchange earnings. Tuna emerged as the leading fishery export commodity, constituting a substantial portion of the export volume and value, which underscores its importance in the global market. Other significant exports included octopus, seaweed, grouper, crab, shrimp/prawn, squid, cuttlefish, ornamental fish, round scad, and sea cucumber, collectively contributing to a major share of the total export volume and value. These commodities highlight the diversity and potential of the Philippines' marine resources in the international trade arena (BFAR, 2022).

Despite fluctuations in export volumes, with a general decline observed from 2018 to 2021, the sector remained a critical source of revenue. The variations in export volumes and values reflect the dynamic nature of global demand and the challenges of sustainable fishing practices (ibid.).

Impact on the Philippines' GDP of firms with a history of wrongdoing, irregularities, or unsustainable behaviour in the fisheries sector

The analysis suggests that every ton of fish caught through IUU activities in the Philippines has a potential impact to GDP of \$4,156.23. With a cumulative catch weight of 17,691.84 tons,

the resultant GDP impact is estimated at \$73,531,308.49. Examining this further, the direct GDP impact is \$38,043,261.07, whereas the indirect impact encompasses the remaining \$35,488,047.42. The catch signifies a 1.71% national GDP impact.

Beyond the direct economic contributions, the fishing industry supports a wide range of ancillary activities, including boat building, gear manufacturing, processing, and marketing. The decline in fish stocks due to IUU fishing can lead to reduced demand for these ancillary services, indirectly affecting the broader economy. Moreover, the reduction in fishery productivity can increase the reliance on imported fishery products to meet domestic demand, affecting the balance of trade and depleting foreign currency reserves.

Impact on the Philippines' employment of firms with a history of wrongdoing, irregularities, or unsustainable behaviour in the fisheries sector

The impact of IUU fishing on employment within the Philippine fishing industry can be profound and multifaceted, affecting not just the immediate jobs related to fishing but also those in the broader value chain. The study finds that for every ton of fish caught through IUU activities, there is an estimated negative potential job impact of 0.97 positions. To break this down further, this consists of 0.55 fishers and 0.42 other jobs in the fisheries value chain. Cumulatively, the fish catch may have led to an estimated impact of 17,161 potential job losses, with 9,731 being fishers and 7,431 from other categories.

Given the significance of the fishing sector in providing livelihoods for millions – accounting for 1.9% of the Philippine population considering fishing as their primary occupation in 2021 – the ripple effects of IUU activities touch various aspects of employment and community well-being (BFAR, 2019; 2020; 2022).

IUU fishing directly threatens the sustainability of fish stocks, which are crucial for the jobs of those engaged in capture fishing. The overexploitation of marine resources leads to decreased fish populations, which can result in reduced catch sizes for legal, artisanal fisherfolk who rely on these resources for their livelihoods. As fish stocks decline, so does the capacity for artisanal and small-scale fishers to sustain their operations, potentially leading to job losses and decreased income for individuals and communities dependent on fishing.

The effects of IUU fishing extend beyond those directly harvesting the fish. Jobs in processing, marketing, and distribution of fish products are also impacted by fluctuations in fish availability due to IUU activities. A decline in fish stocks can lead to reduced operations in processing plants, fewer opportunities for vendors in local markets, and challenges for those involved in the broader supply chain. This can exacerbate unemployment and underemployment issues in coastal regions where alternative employment opportunities are limited.

Impact on poverty in the Philippines of firms with a history of wrongdoing, irregularities, or unsustainable behaviour in the fisheries sector

The fishing industry in the Philippines, while being a significant contributor to the nation's economy and employment, also highlights a critical issue of poverty among those working within this sector. Despite the industry's potential to generate income and provide livelihoods to millions, many fisherfolk in the Philippines live below the poverty line, facing economic hardships that are more severe than those encountered by the broader population.

Data from 2006 to 2021 reveals a concerning trend: the poverty incidence among fisherfolk consistently remains notably higher than the national average (BFAR, 2022). In 2021, the poverty rate among individuals engaged in fishing was significantly elevated at 30.6%, contrasting sharply with the national poverty incidence of 13.1% (Philippine Statistics Authority, 2021). This discrepancy underscores the vulnerability of fisherfolk, who, despite their essential role in food security and the economy, struggle with poverty at rates more than double that of the general populace. The disparity in annual income among fisherfolk across different regions further emphasises the need for targeted interventions to improve the welfare and economic status of this community.

IUU fishing undermines the sustainability of fish stocks, which are crucial for the livelihoods of millions of Filipinos engaged in the fishing sector. The depletion of these resources due to IUU practices threatens the economic foundation of communities dependent on fishing, leading to reduced catches, income, and increased vulnerability to poverty. Given that fisherfolk already face a poverty incidence significantly higher than the national average, the impacts of IUU fishing exacerbate an already precarious situation.

The study finds that the impacts of IUU fishing on poverty are significant. The estimated loss of fish catch to IUU activities is projected to accentuate the number of potentially impoverished individuals in the Philippines by an additional 23,926.

Conclusions

The Philippines' fishing industry is characterised by many small, artisanal vessels and a significant foreign presence in its EEZ. The encroachment of foreign vessels into municipal waters and the lack of transparency in vessel ownership and operations are major concerns that threaten the sustainability of local fisheries and marine biodiversity.

The economic importance of fishing in the Philippines is multifaceted, encompassing its contribution to GDP, export revenues, employment, and the socio-economic well-being of fisherfolk. The sector's potential for growth and its role in food security, coupled with the

challenges of sustainability and poverty reduction, underscore the need for comprehensive mitigating strategies. These strategies should promote sustainable fishing practices, diversification, capacity building, enhanced social protection, and regional development to ensure the long-term viability of the sector and its contributions to the Philippine economy.

The issue of poverty among fisherfolk in the Philippines is a critical challenge that underscores the need for sustainable management of fishery resources, enhanced social protection, and targeted interventions to improve the economic well-being of those within this sector. By addressing the root causes of poverty and implementing comprehensive strategies to support fisherfolk, the Philippines can ensure that the fishing industry not only contributes to the national economy but also provides a sustainable and dignified livelihood for all those who depend on it.

The employment impacts of IUU fishing in the Philippines are significant, affecting not only those directly engaged in fishing but also individuals throughout the fishery value chain. Addressing these impacts requires a comprehensive approach that combines effective enforcement, community empowerment, economic diversification, and international cooperation. By tackling the challenges posed by IUU fishing, the Philippines can protect and sustain the fishing industry's role as a critical source of employment and livelihoods for millions.

Recommendations for policymakers

Management and sustainability practices

- Implement stricter regulations and monitoring systems to ensure sustainable fishing practices and prevent overfishing.
- Encourage the use of selective gear to reduce bycatch.

Legal and ethical concerns

- Strengthen the legal framework to ensure foreign-owned vessels comply with Philippine laws.
- Enforce labour standards to prevent exploitation on fishing vessels.

Community engagement

- Involve local communities in fisheries management to ensure their needs are met and to support artisanal fishing practices that are sustainable and beneficial to local food security.

Environmental protection

- Enhance the protection of marine ecosystems through conservation measures and by regulating fishing methods that cause environmental harm.

Transparency and international cooperation

- Improve transparency in vessel ownership and operations.
- Collaborate with international bodies and other countries to address challenges related to flags of convenience (FoCs) and manage shared fish stocks effectively.

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