Policy brief

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

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Abstract

This policy brief examines the current state of Ghana's fishing activity, both domestic and foreign, focusing on the fleet composition, types of vessels, ownership issues, and the challenges posed by illegal, unreported, and unregulated (IUU) fishing practices. It highlights the significant impact of the saiko system, a form of unlawful transshipment of fish, which has led to severe biodiversity loss and economic repercussions for Ghana. The presence of a substantial number of vessels owned or operated by foreign interests, particularly Chinese companies, raises concerns about sustainability and the exploitation of Ghana's marine resources. The paper concludes with recommendations aimed at improving management and sustainability practices, addressing legal and ethical considerations, enhancing community engagement and environmental protection, and fostering transparency and international cooperation.

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About this publication

This policy brief provides synthesises 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 current state of Ghana's fishing activity, both domestic and foreign, focusing on the fleet composition, types of vessels, ownership issues, and the challenges posed by illegal, unreported, and unregulated (IUU) fishing practices. It highlights the significant impact of the saiko system, a form of unlawful transshipment of fish, which has led to severe biodiversity loss and economic repercussions for Ghana (Clover, 2020; Engelen, 2022; Far Dwuma Nkɔdo, 2018; Oirere, 2021). The presence of a substantial number of vessels owned or operated by foreign interests, particularly Chinese companies, raises concerns about sustainability and the exploitation of Ghana's marine resources.

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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 indicates that Ghana's domestic fishing fleet is primarily composed of gill netters (59.92%), targeting pelagic fish for regional consumption, followed by trawlers (23.95%), and pole and line vessels (10.28%). The foreign fleet operating in Ghana's Exclusive Economic Zone (EEZ) mainly consists of seiners (45.26%), trawlers, and longliners. A significant portion of these vessels are flagged to China, Spain, Belize, France, and Panama, with some flags being identified as flags of convenience (FoCs).

Ownership, concerns and other issues

Based on our relational database, the domestic fleet has notable ties to foreign interests, with at least 107 vessels owned by Chinese companies. This foreign dominance is linked to various unsustainable practices, including the saiko barter system, which has transformed into a highly organised and illegal industry, severely impacting Ghana's marine biodiversity and local livelihoods.

Although the situation has improved lately, the saiko system has led to the targeting of smaller fish species that are typically reserved for artisanal fishers, significantly impacting Ghana's marine biodiversity and the livelihoods of local communities. A 2017 report estimated that around 100,000 metric tons of fish were landed through the saiko system in that year alone, representing a substantial revenue loss valued between $40.6 and $50.7 million (EJF Staff, 2017). The European

Commission has issued yellow cards to Ghana, indicating severe shortcomings in the country's efforts to combat IUU fishing, including issues related to the saiko system, deficiencies in monitoring, control, and surveillance, and a legal framework not fully aligned with international obligations.

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:
   Payload = NT−(NT×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.

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

Ghana's fisheries sector is a cornerstone of the national economy, driving employment, livelihoods, foreign exchange earnings, food security, and poverty reduction efforts. Despite a decline in its GDP contribution from 1.5% in 2015 to 0.9% in 2019, the sector continues to generate significant revenue, approximately $1 billion annually (Ghana Fisheries Commission, 2020). This performance underscores the sector's potential for growth and the need to address overexploitation to sustain its economic contributions.

Recent years have seen a notable increase in fish landings, particularly from 2018 to 2021, with total marine production surging by 20.5% between 2020 and 2021. Artisanal fisheries, constituting over 60% of marine production, primarily target small pelagic species consumed locally, indicating the sector's significance in meeting domestic food needs (ibid.). This growth has concurrently elevated the economic value of fish production, highlighting the sector's importance to Ghana's economy.

The fisheries fleet in Ghana is diversified, comprising artisanal canoes, semi-industrial, and industrial vessels, each playing a distinct role in the sector's output. Despite this diversity, challenges such as declining fish exports since 2018 reflect underlying issues, including overfishing and IUU fishing activities. These challenges not only affect export volumes and values but also the domestic market, where fish prices have been rising, impacting consumer access to affordable protein.

Analysing the impact of IUU activities on Ghana's economy, employment, and poverty reveals significant consequences. IUU fishing compromises the sustainability of fish stocks, affecting the sector's economic viability and its ability to support jobs and reduce poverty. The estimated economic payload from tuna and squid catches, totalling $55,610,586.86, with tuna as the dominant contributor, illustrates the financial stakes involved. However, IUU activities threaten these contributions, undermining efforts to enhance GDP impacts and job creation within the sector.

The direct and indirect GDP impacts of the fisheries sector, accounting for a potential impact of 9.57% on the fisheries GDP and 0.08% on the national GDP, emphasise the sector's role in the national economy. Yet, IUU activities pose a risk to achieving these potential contributions, necessitating robust management and enforcement measures.

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

Focusing on the employment aspect within Ghana's fisheries sector highlights its critical role in providing livelihoods for a significant portion of the country's population. The sector not only contributes to national economic output but also serves as a vital source of employment, directly and indirectly supporting approximately 2.6 million people (Ghana Fisheries Commission, 2020). This figure represents about 10% of Ghana's active workforce, underscoring the sector's importance in the national labour market and its impact on community livelihoods and socio-economic development.

The fisheries sector in Ghana encompasses a broad range of activities, including fishing, processing, boat building, net making, and other ancillary services. Employment within the sector is distributed across various sub-sectors (ibid.):

- **Artisanal fisheries:** The artisanal fisheries sub-sector is the largest employer, with over 14,275 registered canoes in 2019, 90% of which were motorised. Artisanal fishing employs a vast majority of fishers and is integral to rural coastal economies where it provides essential income and sustenance for communities.
- **Semi-industrial and industrial fisheries:** While smaller in comparison, the semi-industrial and industrial fleets, including bottom trawl vessels and tuna vessels (purse seiners and bait boats), also contribute to employment. These vessels employ crews for operations within Ghana's Exclusive Economic Zone (EEZ) and beyond, supporting jobs in fishing, maintenance, and logistics.

IUU fishing activities pose significant threats to the sustainability of fish stocks, which in turn impacts employment security within the sector. IUU fishing leads to the depletion of fisheries resources, undermining the economic foundation upon which these jobs depend. As fish stocks decline, the viability of fishing as a livelihood diminishes, risking job losses and reduced income

for those employed in both primary (fishing) and secondary (processing, marketing) activities related to the fisheries sector. IUU activities involving blacklisted vessels could account for approximately 3,066 jobs lost, based on the estimated fish catch of these companies.

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

Focusing on the poverty aspect within Ghana's fisheries sector reveals a complex interplay between economic activities, employment opportunities, and livelihood sustenance for a significant portion of the population. The fisheries sector, beyond its economic contributions and employment provision, plays a crucial role in food security and poverty alleviation. However, challenges such as overexploitation of resources and IUU fishing activities significantly impact these contributions, with profound implications for poverty levels in the country.

By undermining the management of fish stocks, IUU activities contribute to the depletion of resources critical for the livelihoods of local communities. This depletion directly affects the income of fishers and all those employed within the fisheries value chain, from processing to market sales. As fish stocks decline, incomes dwindle, pushing more people towards poverty.

Estimates suggest that IUU activities by blacklisted vessels may cause an additional 27,091 individuals to live in poverty, underscoring the broader socio-economic implications of unsustainable fishing practices. These numbers reflect not just a loss of income but also a reduction in food security and nutrition, as fish is a primary source of animal protein in Ghana. The ripple effects of increasing poverty due to declining fisheries extend beyond individual households, affecting community well-being and national socio-economic stability.

Conclusions

Ghana's fishing industry is at a critical juncture, with unsustainable practices and foreign ownership posing significant threats to marine biodiversity and the economic well-being of local communities. The saiko system and the dominance of foreign vessels, particularly those with ties to Chinese interests, highlight the urgent need for comprehensive reforms to ensure the sustainability of Ghana's fishing sector.

The employment aspect of Ghana's fisheries sector underscores its significance as a source of livelihood for millions of Ghanaians. The sector's ability to provide sustainable employment opportunities is closely linked to the health of fish stocks and the effective management of fisheries resources. Addressing the challenges posed by IUU fishing and overexploitation is crucial to ensuring the long-term viability of the sector and its role in the national economy. Through targeted strategies aimed at sustainable management, capacity building, livelihood diversification, and the promotion of aquaculture, Ghana can safeguard and enhance employment within the fisheries sector, contributing to broader socio-economic development and poverty reduction efforts.

IUU fishing activities not only compromise the sustainability of fisheries resources but also have profound economic, employment, and social impacts. These activities undermine the sector's contributions to GDP, threaten job security, and exacerbate poverty levels. Addressing IUU fishing is thus imperative to safeguarding the fisheries sector's role in Ghana's economy, ensuring the sustainability of fish stocks, and supporting the livelihoods of millions dependent on fishing.

The ongoing challenges posed by IUU fishing activities necessitate a concerted effort from all stakeholders, including the government, local communities, and international partners. Strengthening fisheries management, enhancing monitoring, control, and surveillance measures, and promoting sustainable fishing practices are crucial steps toward mitigating the adverse impacts of IUU fishing. By addressing these challenges, Ghana can sustain the fisheries sector's contributions to the economy, support employment, and advance poverty reduction efforts, securing a prosperous future for its fisheries and the communities that depend on them.

Recommendations for policymakers

Prioritise domestic food needs

- Establish and enforce catch quotas for both domestic and foreign fleets to ensure that a significant portion of the catch is reserved for local consumption.
- Strictly regulate or ban transshipments at sea, such as those occurring in the saiko system, to prevent the illegal transfer of fish from industrial trawlers to canoes for sale, which diverts fish away from local markets.

Strengthen domestic fishing industry and sustainable practices

- Provide support to artisanal fishers through smart subsidies, training, and access to sustainable fishing gear to enhance their competitiveness against industrial fleets.
- Increase monitoring and surveillance of fishing activities, particularly of foreign vessels, to ensure compliance with regulations and to detect and deter IUU fishing.

- Amend the legal framework to close loopholes that allow foreign interests to operate under the Ghanaian flag, particularly those related to fleets, including blacklisted vessels and flags of convenience (FoCs).
- Invest in capacity building for fisheries management authorities to effectively enforce regulations and manage the fishing industry sustainably.
- Implement a licensing system that limits the number of foreign vessels allowed to fish in Ghana's EEZ and ensures that they adhere to sustainable fishing practices. This could include stricter vetting processes and higher fees for foreign vessels, with the revenue used to support local fishers and conservation efforts.

Improve transparency and international cooperation

- Require detailed disclosure of vessel ownership, operations and end markets, particularly for those vessels with foreign ties, to ensure accountability and legal compliance.
- Engage in international agreements that promote sustainable fishing practices and combat IUU fishing. This includes working with regional bodies and international partners to manage shared fish stocks and to address the issue of FoCs.

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