

AT WHAT COST?

How Ghana is losing out in fishing arrangements with China's distant water fleet





Protecting People and Planet

The Environmental Justice Foundation

(EJF) is a UK-based environmental and human rights charity registered in England and Wales (1088128).

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OUR MISSION

Protecting People and Planet

**EJF believes environmental security is a human right.
EJF strives to:**

- Protect the natural environment and the people and wildlife that depend upon it by linking environmental security, human rights and social need
- Create and implement solutions where they are needed most – training local people and communities who are directly affected to investigate, expose and combat environmental degradation and associated human rights abuses
- Provide training in the latest video technologies, research and advocacy skills to document both the problems and solutions, working through the media to create public and political platforms for constructive change
- Raise international awareness of the issues our partners are working locally to resolve

Our Oceans Campaign

EJF's Oceans Campaign aims to protect the marine environment, its biodiversity and the livelihoods dependent upon it. We are working to eradicate illegal, unreported and unregulated fishing and to create full transparency and traceability within seafood supply chains and markets. We conduct detailed investigations into illegal, unsustainable and unethical practices and actively promote improvements to policy making, corporate governance and management of fisheries along with consumer activism and market-driven solutions.

EJF is working to secure sustainable, legal and ethical seafood.

Our ambition is to secure truly sustainable, well-managed fisheries and with this the conservation of marine biodiversity and ecosystems and the protection of human rights.

EJF believes that there must be greater equity in global fisheries to ensure developing countries and vulnerable communities are given fair access and support to sustainably manage their natural marine resources and the right to work in the seafood industry without suffering labour and human rights abuses.

We believe in working collaboratively with all stakeholders to achieve these goals.

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Acronyms

EEZ	Exclusive Economic Zone	GT	Gross tonnage
EU	European Union	IMO	International Maritime Organization
FAO	Food and Agriculture Organization of the United Nations	IUU	Illegal, unreported and unregulated (fishing)
GDP	Gross Domestic Product	SFPA	Sustainable Fisheries Partnership Agreement
GRT	Gross register tonnage	UNCLOS	United Nations Convention on the Law of the Sea
		WARFP	West Africa Regional Fisheries Program

Glossary

Beneficial owner	a natural person who ultimately owns or controls a legal entity or arrangement.
Bottom trawl	a method of fishing that involves towing a cone-shaped net along the seabed to target fish living close to or on the bottom.
Cephalopod	any marine mollusc of the class Cephalopoda including the cuttlefish, octopus and squid.
Demersal	term used to describe species that live on or near the seabed (demersal zone). Examples include flat fish, as well as groupers, snappers and cephalopods.
Saiko	the local name for illegal fish trans-shipments in Ghana, where industrial trawlers transfer frozen fish to purpose built canoes out at sea.

Executive summary

The expansion of coastal bottom trawling in West Africa is of serious concern. In addition to the highly destructive environmental footprint¹, conflicts with small-scale fishers², engagement of vessels in illegal activities³ and reports of possible forced labour⁴ have been documented in these fleets. The damaging implications for the sustainability of the region's coastal fisheries – which are of critical importance to food security and the livelihoods of local communities – are increasingly clear. Meanwhile, assessments have found limited financial benefit accruing to developing states from coastal bottom trawling activities.⁵

China is the leading player in West Africa's bottom trawl fishery, with hundreds of vessels operating from Mauritania to Liberia and throughout the Gulf of Guinea down to Angola. While many Chinese bottom trawlers operate as foreign vessels, generally under fishing authorisations issued directly by coastal states to vessel owners (private agreements)⁶, in Ghana the vessels register to the local flag and access the country's waters on local licences. An estimated 90% of trawlers operating in Ghana are beneficially owned by Chinese corporations⁷, in spite of a prohibition against foreign ownership or control of trawlers flying the Ghanaian flag⁸. These corporations operate through local front companies, using opaque corporate structures to import their vessels, register and obtain a licence to fish⁹.

This study considers whether the licensing regime for bottom trawlers in Ghana is impacting the amount of government revenue that could be generated by the sector. We look at two main sources of public revenue: (i) licence fees paid by fishing companies, and (ii) financial penalties imposed for fisheries-related infringements. We compare actual licensing revenue with projected licensing revenue based on foreign licence fees applied by other coastal states in the region. We assess fisheries enforcement revenue collected by the Ghanaian government and estimate lost (or unrealised) revenue where fines below the statutory minimum have been imposed.



An industrial trawler operating in Ghana.

Key findings

The findings of this research indicate that Ghana is substantially undervaluing its fisheries resources in arrangements with Chinese fishing companies to license vessels under the Ghanaian flag.

- Overall, it is estimated conservatively that Ghana could be generating an additional US\$14.4-23.7 million annually from its trawl sector by way of fishing licence fees and enforcement revenue for fisheries-related infringements. The concealment of beneficial ownership behind local front companies may serve to justify the application of low licence fees and the imposition of financial penalties at well below the statutory minimum.
- The study identified eight Chinese companies that currently, or in the recent past, have beneficially owned industrial trawlers operating under the Ghanaian flag. These companies accounted for 75% of trawlers that were licensed to fish in Ghana at the end of 2019. Two companies were found to be particularly dominant in the sector: Dalian Mengxin Ocean Fishery Co. Ltd and Rongcheng Marine Fishery Co. Ltd. Together these companies accounted for 44% of licensed vessels at the end of 2019, each with a fleet of 15-20 bottom trawlers operating under the Ghanaian flag.
- One state-owned Chinese company with trawl operations in Ghana, Shandong Zhonglu Oceanic Fisheries Co Ltd, reported an operating revenue of around US\$164.5 million in 2019, receiving subsidies for the development of its overseas fishing operations of around US\$3.0 million in that year. At least seven Chinese fishing companies with trawl operations in Ghana have obtained ocean fishery enterprise qualifications from the Chinese government which confer eligibility to receive state subsidies.
- For the purposes of licensing, trawl vessels in Ghana are registered to numerous local companies. A total of 52 Ghanaian companies have held licences for trawl vessels since 2015. The majority of local licence holders reported an envisaged annual revenue of less than US\$10,000 on incorporation. Nearly half of companies for which data were obtained reported an envisaged annual revenue of less than US\$1,000.
- Projections of licensing revenue based on fees and royalties payable in other coastal states in the region suggest Ghana could be generating an additional US\$2.4-6.7 million annually by increasing its fees from the current level of US\$135/GRT/annum. The projections in this study are based on fees charged primarily under Sustainable Fisheries Partnership Agreements (SFPAs) between West African coastal states and the European Union (EU), which have come under their own criticism for being too low¹⁰.
- Total licensing revenue in Ghana is insignificant compared to the landed value of catches by the industrial trawl fleet. In 2018, licence fees collected from trawling companies in Ghana represented just 0.4% of the landed value, excluding illegal and unreported catches which are thought to be significant¹¹. Cases of apparent under-reporting of vessel tonnage for trawlers operating in Ghana have also been identified, further impacting licence fees received.

In 2018, licence fees collected from trawling companies in Ghana represented just 0.4% of the landed value, excluding illegal and unreported catches which are thought to be significant.

- Ghana's licence fee remains lower than fees applied to foreign trawlers by other West African coastal states, even with the increase in 2020 to US\$135/GRT/annum from the historical fee of US\$35/GRT/annum. Since 2002, licence fees for an average 200 GRT trawler in Ghana have been in the region of US\$7,000 per year, increasing in 2020 to around US\$30,000 per year. In 2020, industrial vessel operators successfully appealed to the Presidency for a reduction in the proposed licence fee of US\$200/GRT/annum that had been previously approved by cabinet and parliament¹².
- In addition to low licensing revenues, Ghana is failing to apply deterrent financial penalties in accordance with minimum fines in its legislation (and its obligations under international law). This resulted in unrealised enforcement revenue of around US\$12 million in 2015 and US\$17 million in 2018.
- As a result of the lack of transparency around vessel ownership, prosecutions fail to target the beneficial owners – often a much larger entity with a controlling interest in the vessel – to ensure sanctions imposed are proportionate and have a deterrent effect. Cases are generally heard through opaque out-of-court settlement processes, with fines imposed at well below the statutory minimum and in some cases going unpaid. This study has identified several cases of alleged illegal fishing in Ghana linked to a Chinese state-owned corporation in receipt of government subsidies, Shandong Zhonglu Oceanic Fisheries Co Ltd, and further cases of alleged illegal fishing linked to a second Chinese state-owned company, Shandong Ocean Fishery Development Corporation.
- The findings indicate that revenue generated by the industrial trawl sector could be maintained with a significantly reduced fleet. Through aligning licence fees with those applied by Guinea, for instance, Ghana could address fleet over-capacity and reduce trawler numbers by around 87% from 75 to 10 vessels yet double the revenue generated in 2018. Indeed, Ghana could go further and reduce trawler numbers by around 93% to five vessels and still remain revenue neutral at 2018 levels. Such a reduction would provide massive benefits to the country's struggling artisanal fishery, which supports jobs and food security for millions of Ghanaians.

In addition to low licensing revenues, Ghana is failing to apply deterrent financial penalties in accordance with minimum fines in its legislation (and its obligations under international law). This resulted in unrealised enforcement revenue of around US\$12 million in 2015 and US\$17 million in 2018.

There is a need to enhance accountability through parliamentary oversight of industrial fishing licences, as required by the 1992 Constitution, and to effectively enforce the law governing the nationality of vessel ownership set out in the 2002 Fisheries Act.

The report recommends urgent reforms in Ghana's trawl sector that first and foremost improve transparency, so it is clear who is benefiting from fishing access, what and how much they are fishing, how much they are paying and what these funds are used for. There is a need to enhance accountability through parliamentary oversight of industrial fishing licences, as required by the 1992 Constitution¹³, and to effectively enforce the law governing the nationality of vessel ownership in the 2002 Fisheries Act. The governments of Ghana and China must work collaboratively to ensure the perpetrators and beneficiaries of illegal fishing are identified and held to account for their acts, through implementation of an enforcement regime that imposes proportionate and dissuasive sanctions through transparent processes and ensures that fishing licences and government subsidies are withdrawn for entities that engage in illegal practices. China's adoption of new distant water fishing regulations provides the country with the legal basis and opportunity to scrutinise the operations of private and state-controlled fishing companies in Ghana and bring its "hidden" fleet into compliance with national and international law.



The findings indicate that revenue generated by the industrial trawl sector could be maintained with a significantly reduced fleet. Through aligning licence fees with those applied by Guinea, for instance, Ghana could address fleet over-capacity and reduce trawler numbers by around 87% from 75 to 10 vessels yet double the revenue generated in 2018.

Overall, it is estimated conservatively that Ghana could be generating an additional US\$14.4-23.7 million annually from its trawl sector by way of fishing licence fees and enforcement revenue for fisheries-related infringements. The concealment of beneficial ownership behind local front companies may serve to justify the application of low licence fees and the imposition of financial penalties at well below the statutory minimum.

Introduction

The expansion of coastal bottom trawling in West Africa is of serious concern. In addition to the highly destructive environmental footprint¹⁴, conflicts with small-scale fishers¹⁵, engagement of vessels in illegal activities¹⁶ and reports of possible forced labour¹⁷ have been documented in these fleets. The damaging implications for the sustainability of the region's coastal fisheries – which are of critical importance to food security and the livelihoods of local communities – are increasingly clear. Meanwhile, assessments have found limited financial benefit accruing to developing states from coastal bottom trawling¹⁸, which is reminiscent of “slash-and-burn” agriculture in forest ecosystems¹⁹.

In recent decades, the fishing effort of China's bottom trawl fleet has overtaken that of other nations in waters around the world. Catches of Chinese bottom trawlers now account for an estimated 28% of the global total, dwarfing all other countries²⁰. The fleet has expanded to previously less exploited Exclusive Economic Zones (EEZs)²¹, including waters of African nations impacted by high levels of illegal, unreported and unregulated (IUU) fishing²². A recent study of Chinese bottom trawling activity since 1950 revealed a history of destructive trawling by China within its claimed EEZ and a continuing trend of sending more powerful vessels to distant waters²³. The study identified a striking collapse in catch per unit effort of the fleet in both domestic and distant waters²⁴.

In West Africa, catches by China's bottom trawl fleet are estimated at around 2.35 million tonnes per annum, or around 50% of the country's total distant water catches, with a landed (ex-vessel) value of €4.74 billion per year²⁵. The size of China's distant water fleet in West Africa is estimated at around 300-400 vessels, of which around three-quarters are bottom trawlers²⁶. Accurate figures are, however, precluded by the flagging of vessels with Chinese beneficial ownership to local flags²⁷. A recent assessment identified 518 Chinese-owned vessels registered in African nations, of which 426 were identified as trawlers²⁸. More than half of the Chinese-owned vessels were found to be registered in just two countries: Ghana and Mauritania²⁹.

The case of Ghana in West Africa is particularly noteworthy in terms of the scale of fishing operations conducted under the local flag. Over the past decade, between 70 and 105 bottom trawlers registered under the Ghanaian flag have been licensed annually to fish in Ghana's EEZ³⁰. An estimated 90% of these vessels are beneficially owned by Chinese corporations³¹, which operate through Ghanaian front companies, using opaque corporate structures to import their vessels, register and obtain a licence to fish³². As a consequence of these practices, Ghana now has “the largest registry of Chinese distant water vessels outside of China”³³ and has been criticised for failing to enforce international law by allowing vessels to register without investigating their beneficial ownership³⁴.

The registration of Chinese distant water vessels under the Ghanaian flag arises from regulations that attempt to preserve access to Ghana's fisheries for Ghanaians or, at the least, ensure that Ghanaians are the beneficiaries of local industrial fishing licences³⁵. Under the 2002 Fisheries Act (Act 625)³⁶, only those industrial trawl vessels that are fully owned by Ghanaians, or by companies fully (beneficially) owned by Ghanaians, are to be granted a local industrial fishing licence (**Box 1**). However, implementation of these provisions in practice has led to an unintelligible and presumably unintended situation whereby foreign operators obtain the benefits of local fishing licences while largely escaping scrutiny and prosecution for unsustainable and illegal fishing practices.

This study considers whether the licensing regime for bottom trawlers in Ghana is impacting the amount of government revenue that could be generated by the sector. We look at two main sources of public revenue: (i) licence fees paid by fishing companies, and (ii) financial penalties imposed for fisheries-related infringements. We compare actual licensing revenue with projected licensing revenue based on foreign licence fees applied by other coastal states in the region. We assess fisheries enforcement revenue collected by the Ghanaian government and estimate lost (or unrealised) revenue where fines below the statutory minimum have been imposed.

In assessing potential lost (or unrealised) revenue, this research does not attempt to quantify the potentially significant revenue losses arising from the negative impacts of illegal fishing and over-fishing by trawlers on fish populations in Ghana and the livelihoods of artisanal fishers. The loss of livelihoods, food security and state revenue resulting from broader fisheries declines, driven in part by the trawl fleet, requires further in-depth analysis and will be considered in a future paper.



An industrial trawler fishing in Ghana.

Box 1:

Legal provisions concerning local and foreign fishing vessels in Ghana

A Local Industrial Fishing Vessel is defined in Section 47(1) of Ghana's 2002 Fisheries Act (Act 625) as:

*"...a fishing vessel owned or controlled by a citizen, the Government, or owned or controlled by a company or partnership registered by law in the Republic which has its principal place of business in the Republic and the **share of which is beneficially owned³⁷ wholly by the Government, a citizen, a public corporation established by law in the Republic or a combination of any of them**, and in the case of a tuna fishing vessel, where at least fifty percent of the shares in the vessel is beneficially owned or controlled by the persons listed above."*

Industrial fishing vessels that do not fit into the definition of a Local Industrial Fishing Vessel are classified as a Foreign Fishing Vessel. The latter is defined as: "A fishing vessel other than a local industrial or semi-industrial fishing vessel or a canoe"³⁸.

Vessels with foreign beneficial ownership are to be licensed as Foreign Fishing Vessels. According to Sections 63(1) and 64 of the 2002 Fisheries Act, licensing is to take place within the framework of an access arrangement between the Ghanaian government and a foreign government, association or other body with the power to enforce compliance with the terms of the access arrangement³⁹. An exemption may be granted to this requirement, provided that the Minister is satisfied that the vessel is registered in accordance with the laws of its flag state⁴⁰.

In accordance with Ghana's obligations under the United Nations Convention on the Law of the Sea (UNCLOS)⁴¹, Section 64(2) of the 2002 Fisheries Act requires that access arrangements provide for an allocation of fish not exceeding a level consistent with the conservation and management of Ghana's fishery resources, while providing for the protection of local fishermen and being consistent with any fishery plan⁴².



Saiko fish landed at Elmina port.

Box 2:

The status of Ghana's marine fisheries resources

Ghana's marine fisheries resources are in steep decline. A number of important populations, such as sardinella, groupers, snappers and cephalopods, are considered severely overfished, while others such as chub mackerel and skipjacks are considered fully exploited⁴³.

The small pelagic fishery –and particularly the *Sardinella* spp. –is of particular concern due to its role in food security and livelihood provision, and as the key target of artisanal (small-scale) fishers. Populations of sardinella have crashed over the past two decades, with landings declining by around 80% from 135,628 metric tonnes in 1996, to 29,111 tonnes in 2016, in spite of increased fishing effort⁴⁴. Scientists predict the collapse of Ghana's small pelagic fishery in less than five years if there is no change to business as usual⁴⁵.

As fishing communities have seen their catches plummet, industrial trawlers have been observed landing small pelagics –the fish reserved for artisanal fishers –in significant quantities⁴⁶. Many of the fish landed are juveniles, harvested before they have had a chance to reproduce and contribute to rebuilding the fishery⁴⁷.

Much of the fish is landed illegally through the “saiko” trade. Saiko involves the trans-shipment of frozen blocks of fish to purpose built canoes out at sea. These so-called “saiko canoes” transport the fish to ports such as Elmina, for onward sale back to communities for profit. In 2017, an estimated 100,000 tonnes of fish were traded illegally through saiko, with a landed value of over US\$50 million⁴⁸. When illegal and unreported catches are taken into account, landings of 76 industrial trawlers in 2017 were similar in magnitude to the entire artisanal sector of more than 11,000 canoes or 100,000 fishermen⁴⁹.



Frozen blocks of fish being prepared for trans-shipment from a trawler to a saiko canoe © Hen Mpoano

Box 3:

Over-capacity in Ghana's industrial fishing sector

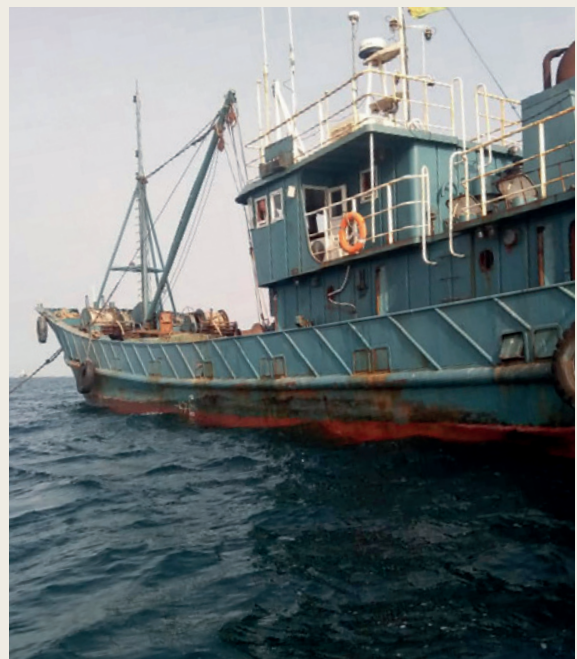
New vessels continue to enter Ghana's waters from China in spite of widespread illegal fishing and over-exploitation resulting in the severe depletion of stocks.

In 2012, the government of Ghana introduced a moratorium on the issuance of new fishing licences and the replacement of old vessels in the industrial trawl sector to address fish population declines⁵⁰. In the Fisheries Management Plan for 2015-2019, the government also set a target of reducing the number of fishing days of the trawl fleet by 50% by the end of 2018, through a reduction in the number of vessels and implementation of measures such as closed seasons⁵¹.

However, since the 2012 moratorium, many new vessels have entered the Ghanaian vessel register and received licences to fish⁵². Indeed, of the industrial trawl vessels licensed to fish in Ghana in 2018, at least half were built in 2013 or later, after the moratorium on new or replacement vessels came into effect⁵³.

The Management Plan recommends 48 trawlers as the maximum that can be sustained by the fishery. However, this recommendation appears to be based on an under-estimate of the catches of the trawl fleet (a figure of 14,500 metric tonnes reported by 107 trawlers in 2014, compared to 33,645 metric tonnes landed by 76 trawlers in 2018). It further fails to take into account illegal and unreported catches, including fish landed through saiko (see **Box 2**). Taking 1,250 tonnes/vessel/year⁵⁴ as a conservative estimate of trawler catches in Ghana, as few as 24-25 trawlers may be required to sustain the fishery⁵⁵.

75 trawlers were licensed to fish in Ghana's waters at the end of 2019⁵⁶. At the time of writing⁵⁷, the list of licences was not available on the website of the Ministry for Fisheries and Aquaculture Development, precluding external scrutiny of the number of licences.



A trawler previously flagged to China and now registered to the Ghanaian flag awaits licensing at Tema port.

Methods

Ghanaian registered owners/licence holders of trawl vessels operating under the Ghanaian flag were extracted from licence lists of vessels published by the Ministry for Fisheries and Aquaculture Development. Information was requested from Ghana's Registrar-General's Department on 42 companies with operational vessels in 2019-20, including details of directors, shareholders, registered capital, envisaged revenue and envisaged number of employees. Information was returned for 37 of the 42 requests made. While a register of beneficial ownership is currently being established by the Registrar-General's Department under the Companies Act 2019 (Act 992)⁵⁸, this was not available at the time of writing.

Chinese beneficial owners of trawl vessels operating under the Ghanaian flag were extracted from information published by China's Ministry of Agriculture and Rural Affairs, including lists and databases of Chinese distant water fishing vessels to be inspected overseas and lists of offshore ocean fishery projects and ocean fishery enterprise qualifications. This information was cross-checked against other data sources, including company websites, IHS Sea-web, and the database of overseas investment enterprises maintained by China's Ministry of Commerce. Searches were carried out of the Orbis global database of company information and in the Chinese language via Baidu.com and on open access websites of corporate information (QCC, Qixin, etc.) to further verify the identities of the companies and acquire information on their fleets, revenue and operations, where available.

Licence fees payable for foreign bottom trawling activities in West African coastal states were compiled from public sources, including *ex ante*/*ex post* evaluations of

Sustainable Fisheries Partnership Agreements (SFPAs) between the European Union (EU) and West African coastal states, national government legislation and reports, and scientific publications. SFPAs provided the readiest source of data on foreign licence fees for demersal trawlers in the region, as information on licence fees, royalties and other payments are maintained up to date and publicly available. Data on revenue received by the government of Ghana from monitoring, control and surveillance activities in recent years were extracted from Annual Reports of the Fisheries Commission, figures published under the West Africa Regional Fisheries Program (WARFP), which ended in Ghana in 2019, and grey literature.

The focus of the research was solely on licence fees for the purposes of making comparisons between countries. The research did not consider the benefits accruing to Ghana from Chinese development assistance or investment tied to access to Ghana's fisheries. Given the scale of China's investment in Ghana and lack of transparency around these arrangements, the identification of relevant investments and quantification of benefits would be difficult to achieve. For consistency, when considering revenue accruing to other coastal states from bottom trawling activities carried out under SFPAs, this analysis only included fees paid by the owners of EU vessels to access fisheries resources in the coastal state's EEZ. Sectoral support granted by the EU to promote sustainable fisheries development in the partner countries, and financial compensation granted by the EU for access by EU vessels to the partner country's fisheries, were not considered in the analysis, although account for a significant proportion of the overall financial contribution paid to coastal state governments under SFPAs⁵⁹.



Catches being sorted and recorded on an industrial trawl vessel in Ghana.

Results

3.1. Vessel ownership

Registered owners – local

Trawl vessels operating under the Ghanaian flag are registered to numerous local companies for the purposes of acquiring licences to fish in the country’s EEZ. We identified a total of 52 Ghanaian companies that have held licences for trawl vessels since 2015⁶⁰ (**Table 1**). Of these, data were requested from the Registrar General for 42 companies with operational vessels in 2019 and/or 2020. Ten additional companies have held licences for trawl vessels during the period 2015-2018, but the vessels do not appear in the licence list for 2019 or 2020.

Data were returned for 37 out of the 42 companies. The 37 companies analysed are the registered owners of 70 operational trawl vessels (**Table 1**). Data on revenue and employees are envisaged data submitted by the companies at the time of incorporation.

The majority of the local companies were incorporated in 2005 or later (**Figure 1**). Almost one-third (31%) of companies were incorporated after the moratorium on the issuance of licences to new trawl fishing vessels entered into effect in 2012 (see **Box 3**). The most recently incorporated company was Presutti Ventures, which was

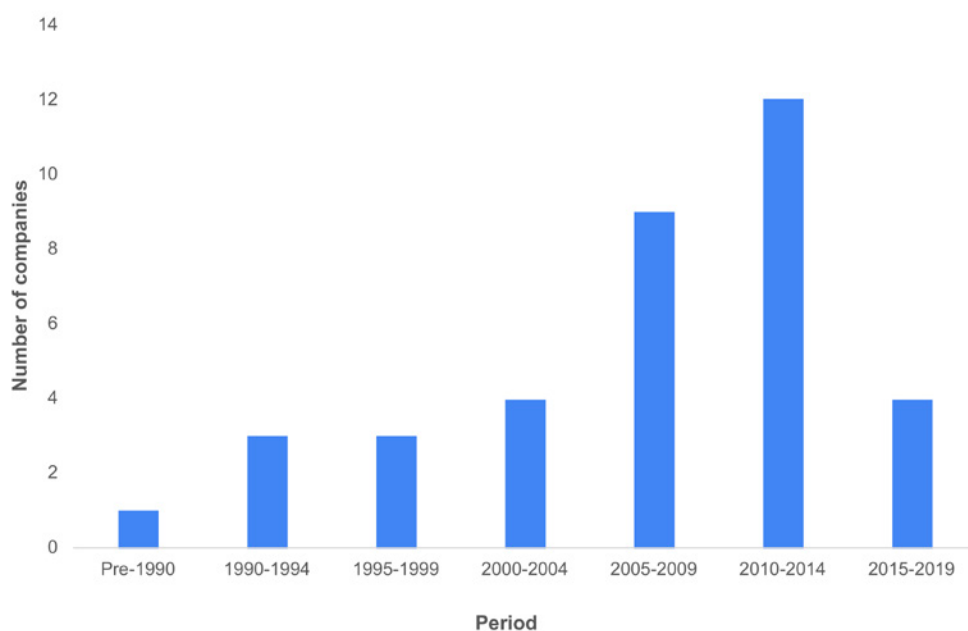
incorporated in 2018 and is the registered owner of two vessels, YU FENG 3 and 4, which were registered to the Ghanaian flag in 2019⁶¹.

Nearly half of the companies for which data were returned reported an envisaged revenue of less than US\$1,000 (approx.) per annum (**Figure 2**). 11 companies reported an envisaged annual revenue of less than GH¢1000, equating to around US\$170 per annum. The majority of companies (over 80%) reported an envisaged revenue of less than US\$10,000 per annum.

Adom Mbroso Coldstores Ltd, established in 1997, was the only company to forecast an annual revenue of more than US\$50,000 per annum. The company is the registered owner of two vessels, NANA ANOAH I and II, and is the only company with plans to employ more than 10 staff (**Figure 3**).

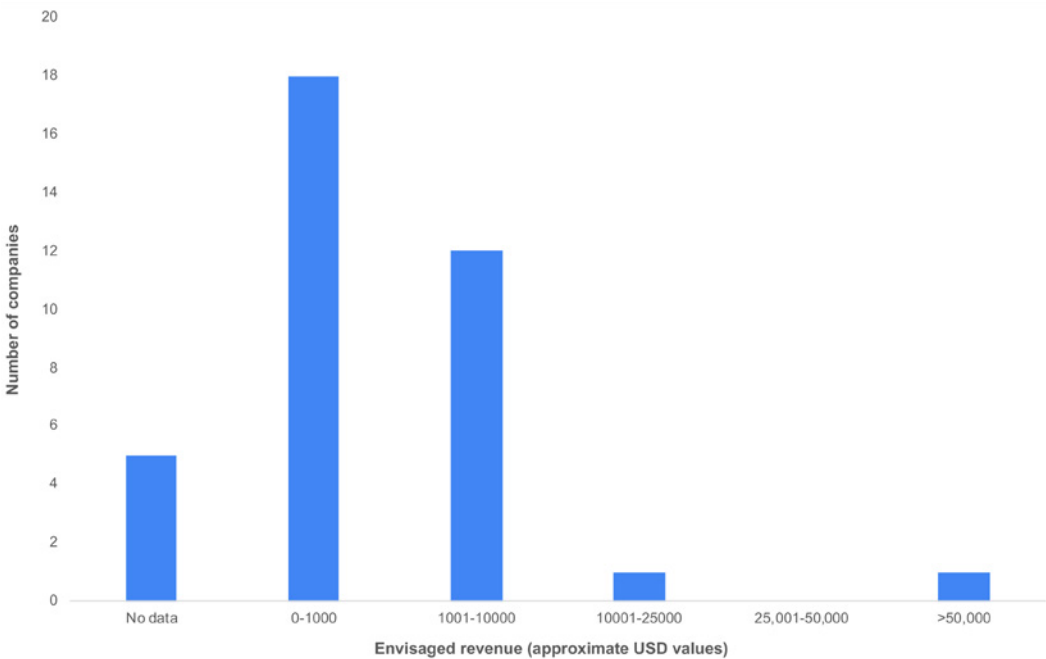
The data above are consistent with previous findings⁶² that local entities appear to act as front companies for the purposes of registering trawl vessels and acquiring licences to fish in Ghana as “Local Industrial Vessels” (see **Box 1**). The low envisaged revenue and staff numbers reported by the local registered owners suggest the involvement of additional entities in the operations of the vessels concerned which have an average tonnage of ca. 200 GRT and which would entail staff and annual revenue well in excess of 10 people or US\$1,000, respectively.

Figure 1: Year of incorporation of companies owning Ghanaian-flagged trawlers



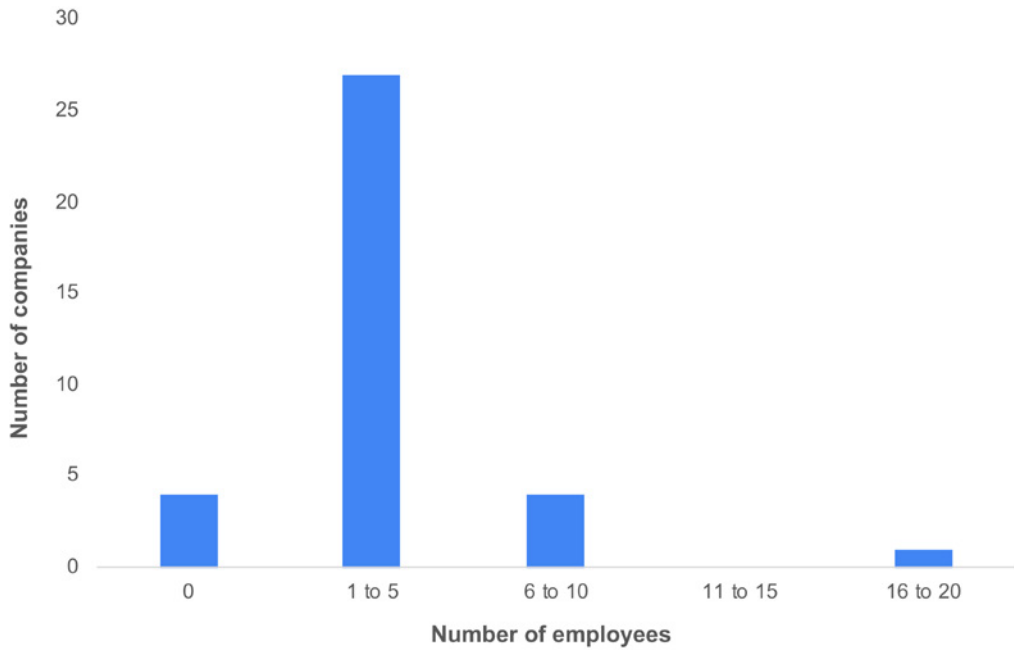
Source: Company data held by Ghana’s Registrar-General’s Department.

Figure 2: Envisaged revenue of companies owning Ghanaian-flagged trawlers



Source: Company data held by Ghana's Registrar-General's Department.

Figure 3: Envisaged number of employees of companies owning Ghanaian-flagged trawlers



Source: Company data held by Ghana's Registrar-General's Department.

Table 1: Registered owners of trawlers operating under the Ghanaian flag since 2015¹

Company name	Vessel(s)	Year of incorporation	Envisaged capital (GH¢)	Envisaged revenue (GH¢)	Envisaged number of employees
ADOM MBROSO COLDSTORES LTD	NANA ANOAH I NANA ANOAH II	1997	500,000	300,000	20
AKRAFI FISHERIES	MENG XIN 14 FLORENCE 2	2011	2000	10,000	6
A.S. DOMDANQ LTD.	LIAN RUN 43	<i>Vessel is now operating in Guinea under the Chinese flag as RUI TAI FENG 905 (see Box 4). The vessel last appeared in the licence list for Ghana in 2018.</i>			
ASIEDU FISHING CO. LTD.	GUO JIN 811	<i>The vessel last appeared in the licence list for Ghana in 2016.</i>			
BOATACOM ENT. LTD	COMFORTER 1 COMFORTER 2	2012	1500	0	0
BOSSGIE LTD	MENG XIN 1 MENG XIN 2	1993	500,000	1000	2
BUSINESS EMPIRE LTD	LU RONG YUAN YU 926 LU RONG YUAN YU 927	2009	500	1000	3
CACTUS ENT.	DALIAN 1 DALIAN 2	<i>The vessels last appeared in the licence list for Ghana in 2016.</i>			
CAVALIER RESOURCES LTD.	AWO YAA 3 AWO YAA 5 AWO YAA 7	<i>The vessels last appeared in the licence list for Ghana in 2016/17</i>			
CEILAKUS INVESTMENT CO. LTD	LU RONG YUAN YU 981	2013	5000	0	0
CONADO ENT. LTD	LIAN RUN 44 ² LU RONG YUAN YU 919		300,000	10,000	2
DANAC FISHERIES LTD	LU RONG YUAN YU 906 LU RONG YUAN YU 907 MENG XIN 9 MENG XIN 12 MENG XIN 13	1993	5000	500	2
DEEDOR CO. LTD	LIAN RUN 29 LIAN RUN 30	<i>The vessels have been reflagged to China under the names RUI TAI FENG 801 and 912 (see Box 4). RUI TAI FENG 801 is now operating in Guinea.</i>			
D-HANDS LTD	D-HANDS 1 D-HANDS 2	2014	1000	1000	4
DORISMAY CO LTD ³	YU FENG 1	2014	5000	200	4
ELSHADAI CO LTD	MV LU RONG YUAN YU 220 MV LU RONG YUAN YU 219	1991	80,000	1000	2
EPAH COM. LTD	LENA	<i>The vessel last appeared in the licence list for Ghana in 2016.</i>			
FINE CATCH FISHING CO LTD	LONG XIANG 603	2016	1000	1000	2
GAZ IMPEX GH. LTD	LU RONG YUAN YU 968 LU RONG YUAN YU 969	2003	2000	5000	2
GAINSVILLE VENTURES LTD	LU RONG YUAN YU 918	2011	10,000	10,000	10
GLOBAL MARINE CONSULT	MENG XIN 6 MENG XIN 5	2006	200,000	10,000	5
GYINAM FISHERIES AND SONS LTD	LU RONG YUAN YU 956	2004	100,000	1000	5
ITAVAN VENTURES LTD	JIN HAI 605 JIN HAI 608	2016	500,000	600	2
JETAP CO LTD	LU RONG YUAN YU 982	2015	1000	5000	5
KENBONAD FISHERIES LTD	MENG XIN 15 MENG XIN 16				
LEGON FISHING CO LTD	ADUM ASONA				
LYEMYLFEN CO LTD	LU RONG YUAN YU 928 LU RONG YUAN YU 929	2007	1000	10,000	2
MASS FISHERIES	TWIN PORT CITY 101 TWIN PORT CITY 103 TWIN PORT CITY 104	2000	254,800	50,000	5

MAWUKEHAMILA LTD	NAIRUSHA 1	<i>The vessel last appeared in the licence list for Ghana in 2018.</i>			
MOVELE CO LTD	LU RONG YUAN YU 908	2014	10,000	10,000	5
MYSTICAL GRACE CO LTD	LU RONG YUAN YU 917 LU RONG YUAN YU 988	2011	10,000	10,000	10
NACMANA FISHING CO LTD	BOHYE SOMBO	2010	500	500 million ⁴	2
NASAAA CO. LTD	MENG XIN 7 MENG XIN 10	2005	500	100,000	5
NASHI FISHING CO LTD	YUN HAI 607	2008	100,000	2000	2
NYAME DOME COLDSTORE LTD	LU RONG YUAN YU 920	2007	500	500	2
NDUMAN CO LTD	LONG XIANG 609	1995	1000	5000	2
NEBULA INTERNATIONAL LTD	HAI LU FENG 6 HAI LU FENG 5	2003	500	2000	4
NEW GULF FISHING CO	MENG XIN 8	2008	10,000	10,000	3
OBUORWE AND COMPANY LTD	GUOJIN 601 GUOJIN 602 LONG XIANG 601 LONG XIANG 602 LONG XIANG 606	1971	3000	10,000	2
OCEAN FRESH CO. LTD.	FIDELIS 101 FIDELIS 102	<i>The vessels last appeared in the licence list for Ghana in 2016.</i>			
OSTHENA CO LTD	MENG XIN 3 MENG XIN 4				
PARADISE FISHERIES LTD	GUO JIN 801	<i>The vessel last appeared in the licence list for Ghana in 2018.</i>			
PRESUTTI VENTURES	YU FENG 3 YU FENG 4	2018	100,000	10,000	10
REONQ FISHERIES CO LTD	LU RONG YUAN YU 916 LU RONG YUAN YU 910	2013	500	0	0
ROCKPOINT COMPANY LTD	LU RONG YUAN YU 959	2009	20,000	1000	3
SANTA FISHERIES GHANA LTD	LU RONG YUAN YU 930 LU RONG YUAN YU 966 LU RONG YUAN YU 967 LU RONG YUAN YU 970	1998	2500	3000	3
SILVER ICE CO. LTD.	FIDELIS 103 FIDELIS 104	<i>The vessels last appeared in the licence list for Ghana in 2016/17.</i>			
TRI-DAN BRUCE CO LTD	JIN HAI 606	2009	100,000	1000	5
TEMA FISHERIES AND FREEZING CO LTD	HAI LU FENG 1 HAI LU FENG 2 HAI LU FENG 3 HAI LU FENG 4				
WANNIMAS COMPLEX	LONG XIANG 607 LONG XIANG 608				
YAW ADDO FISHERIES CO LTD	ZHONG LU YU 1003 ZHONG LU YU 1004	2013	600	0	0
ZOWEH SONS CO LTD	MENG XIN 29 MENG XIN 30	2011	500	1000	2

Notes:

¹ Shaded rows indicate companies for which data have not yet been retrieved from the Registrar-General's Department.

² Although LIAN RUN 44 continues to appear in the Ghanaian licence list (up to June 2020), the vessel was licensed to fish in Guinea in March 2020 under the Chinese flag and name RUI TAI FENG 906. See **Box 4**.

³ Vessel registered under the Ghanaian flag in 2019 but not yet licensed according to published data from the Ministry of Fisheries and Aquaculture Development.

⁴ Amount stated in the company record retrieved from the Registrar-General's Department but likely to be an error considering the envisaged capital and number of employees. This figure was therefore excluded from the present analysis.

Beneficial owners – foreign

Based on publicly available data, it was possible to identify eight Chinese companies that currently, or in the recent past, have beneficially owned industrial trawlers operating under the Ghanaian flag (**Table 2**). These companies accounted for 75% of trawlers that received licences to fish in Ghana at the end of 2019. Two companies were found to be particularly dominant in the sector: Dalian Mengxin Ocean Fishery Co. Ltd and Rongcheng Marine Fishery Co. Ltd. Together these companies accounted for 44% of licensed vessels at the end of 2019, each with a fleet of around 15-20 bottom trawlers operating under the Ghanaian flag.

Profiles of the eight Chinese companies are provided below:

1. Dalian Jinhai Ocean Fishery Development Co. Ltd (大连金海远洋渔业开发有限公司) (**Dalian Jinhai**) was established in March 2000 and is registered in Dalian, Liaoning Province⁶³. The company is described as engaged in ocean fishing in Africa⁶⁴. Dalian Jinhai has previously obtained an ocean fishery enterprise qualification from China's Ministry of Agriculture and Rural Affairs, which confers eligibility for state support⁶⁵. A number of the company's vessels (JIN HAI 605, 606 and 608) are reported to have engaged in illegal fishing in Ghana in recent years – for further details see **Section 3.3** and **Appendix**.



Image of Jin Hai 605 captured by local fishers in Ghana.

2. Dalian Hailufeng Ocean Fishery Development Co. Ltd (大连海陆丰远洋渔业开发有限公司) (**Dalian Hailufeng**) was established in July 2004⁶⁶. The Dalian Hailufeng website states that the company has obtained fishing licences issued by governments in Angola, Benin, Cameroon, Côte d'Ivoire, Ghana and Nigeria and claims it has “considerable influence in African countries”⁶⁷. According to the database of China's Ministry of Commerce, Dalian Hailufeng has overseas investment enterprises in Angola, Cameroon, Côte d'Ivoire, Ghana and The Gambia (**Figure 4**)⁶⁸.



Image of Hai Lu Feng 4 captured by local fishers in Ghana.

Figure 4: Excerpt from the database of overseas investment enterprises for Dalian Hailufeng

Public list of record results of overseas investment enterprises (institutions)

Name of domestic investor: 大连海陆丰远洋渔业开发有限公司	Overseas investment enterprises (institutions):	Verification code: 7257	0168	Inquire
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List of public list of record results of overseas investment enterprises (institutions)

Overseas investment enterprises (institutions)	Name of domestic investor	Investment country (region)
Hainer-Benny Fishery Cooperative	Dalian Hailufeng Ocean Fishery Development Co., Ltd.	Gambia
Hainer Fishery Co., Ltd.	Dalian Hailufeng Ocean Fishery Development Co., Ltd.	Cote d'Ivoire
Ghana Tema Frozen Fisheries Ltd.	Dalian Hailufeng Ocean Fishery Development Co., Ltd.	Ghana
Cameroon Heina Fishery Joint Venture Co., Ltd.	Dalian Hailufeng Ocean Fishery Development Co., Ltd.	Cameroon
MBA Import and Export Business Co., Ltd.	Dalian Hailufeng Ocean Fishery Development Co., Ltd.	Angola
Ghana Nebula International Limited	Dalian Hailufeng Ocean Fishery Development Co., Ltd.	Ghana

In Ghana, Dalian Hailufeng has established “Ghana Hailufeng Fishery Investment Co. Ltd” which has launched a cooperative business with two local fishing companies⁶⁹. The local fishing companies are responsible for obtaining fishing licences and recruiting local personnel⁷⁰. In 2013, the company built “six high-power ocean-going trawler fishing vessels”, which set off to fish in Africa in early 2015⁷¹. The vessels, presumably HAI LU FENG 1-6, first appeared in Ghana’s licence list in 2016. The company’s operations in Ghana are included in the Chinese list of offshore fishery projects for 2019 (see **Figure 5**). Dalian Hailufeng has previously obtained an ocean fishery enterprise qualification from China’s Ministry of Agriculture and Rural Affairs⁷², which confers eligibility for state support⁷³.

Another six vessels in the company’s fleet, HAI LU FENG 7-12, visited Ghana to recruit Ghanaian nationals as crew in 2019⁷⁴ and, according to the 2019-2020 Chinese list of offshore fishery projects, are operating in Côte d’Ivoire⁷⁵. According to Dalian Hailufeng’s website, HAI LU FENG 13-16 sailed to Cameroon in May 2018⁷⁶ where they are currently operating according to the 2020 list of offshore fishery projects⁷⁷.

Figure 5: Inclusion of Shandong Ocean Fishery and Dailian Hailufeng in the 2019 list of offshore fishery projects of China’s Ministry of Agriculture and Rural Affairs⁷⁸

6	Ghana	Shandong Ocean Fishery Co., Ltd.	5	Longxiang 602, 603, 606, 607, 6082	trawl	2019/7/1	2020/3/31
			5	Longxiang 601, 609	trawl	2019/7/1	2020/3/31
		Dalian Hailufeng Ocean Fishery Development Co., Ltd.	6	Hailufeng 1, 2, 3, 4, 5, 6	trawl	2019/10/1	2020/3/31

3. Dalian Mengxin Ocean Fishery Co. Ltd (大连孟鑫远洋渔业有限公司) was founded in 2008 and owns more than 30 ocean-going fishing vessels, all of which operate in Sierra Leone and Ghana⁷⁹. In 2012, Dalian Mengxin built 12 vessels which were sent to Ghana for ocean fishing⁸⁰. Dalian Mengxin has previously obtained an ocean fishery enterprise qualification from China's Ministry of Agriculture and Rural Affairs, which confers eligibility for state support⁸¹. A number of the company's vessels are reported to have engaged in illegal fishing in Ghana in recent years⁸² – for further details see **Box 8**.



Images of Meng Xin 16 (left) and Meng Xin 14 (right) captured by local fishers at sea.

4. Shandong Ocean Fishery Development Corporation (山东省远洋渔业开发公司) (**Shandong Ocean Fishery**) was established in May 1992 and is registered in Jinan City, Shandong Province⁸³. The company is majority owned by the Chinese government⁸⁴. The company has previously obtained an ocean fishery enterprise qualification from the Chinese Ministry of Agriculture and Rural Affairs⁸⁵ which confers eligibility for state support⁸⁶. The company's operations in Ghana are included in the Chinese list of offshore fishery projects for 2019 (see **Figure 5**). Shandong Ocean Fishery has established an overseas investment enterprise in Ghana under the name Shandong Fishery Co. Ltd⁸⁷ (**Figure 6**). A number of the company's vessels (LONG XIANG 601, 602, 606, 607 and 608) are reported to have engaged in illegal fishing in Ghana in recent years, in some cases in repeat offences –for further details see **Appendix**.



Images of Long Xiang 603 (left), Long Xiang 609 (right) and Long Xiang 607 (bottom) captured by local fishers at sea.

Figure 6: Excerpt from the database of overseas investment enterprises for Shandong Ocean Fishery

Public list of record results of overseas investment enterprises (institutions)

Name of domestic investor: 山东	Overseas investment enterprises (institutions):	Verification code: 9482	Inquire
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☰ List of public list of record results of overseas investment enterprises (institutions)

Overseas investment enterprises (institutions)	Name of domestic investor	Investment country (region)
Poseidon Fishery Co., Ltd.	Shandong Ocean Fishery Co., Ltd.	Morocco
Shandong Fishery Co., Ltd.	Shandong Ocean Fishery Co., Ltd.	Morocco
Shandong Fishery Co., Ltd.	Shandong Ocean Fishery Co., Ltd.	Ghana

5. Dalian Lianrun Ocean Fishery Co. Ltd (大连连润远洋渔业有限公司) (Dalian Lianrun) was established in December 2004 and has its main office in Dalian, Liaoning Province. It operates around 30 fishing vessels and transport vessels in Dalian, Ghana, Guinea and Spain⁸⁸. In 2019, Dalian Lianrun changed its name to Dalian Ruitaifeng Pelagic Fishery Co. Ltd and renamed its fleet of vessels from “LIAN RUN” to “RUI TAI FENG”⁸⁹. Dalian Lianrun has previously obtained an ocean fishery enterprise qualification from the Chinese Ministry of Agriculture and Rural Affairs, which confers eligibility for state support⁹⁰. See **Box 4** for additional information.

6. Shandong Zhonglu Oceanic Fisheries Co. Ltd (山东省中鲁远洋渔业股份有限公司) (Shandong Zhonglu) was established in July 1999 and is owned and controlled by state-owned enterprises. Its shares have been listed on the Shenzhen Stock Exchange since July 2000.⁹¹ The company has previously obtained an ocean fishery enterprise qualification from the Chinese Ministry of Agriculture and Rural Affairs⁹² and has received state grants and subsidies in recent years⁹³. The company has both trawl and tuna operations in Ghana. Additional information on the company and on recent fisheries infractions in Ghana involving trawl vessels owned by Shandong Zhonglu are set out in **Box 5**.



The Zhong Lu Yu 1003 operating in Ghanaian waters. Image captured by local fishers.

7. Rongcheng Ocean Fishery Co. Ltd (荣成市远洋渔业有限公司) (Rongcheng Ocean Fishery) was established in 2011 and is ultimately owned by Rongcheng Deep-Sea Fisheries Co. Ltd⁹⁴. According to the database of the Chinese Ministry of Commerce, the company has overseas investment enterprises in Fiji, Ghana, Madagascar and Uruguay⁹⁵ (**Figure 7**). The company has previously obtained an ocean fishery enterprise qualification from the Chinese Ministry of Agriculture and Rural Affairs⁹⁶. A number of the company's vessels are reported to have engaged in illegal fishing in Ghana in recent years –for further details see **Box 7**.

Figure 7: Excerpt from the database of overseas investment enterprises for Rongcheng Ocean Fishery

Public list of record results of overseas investment enterprises (institutions)

Name of domestic investor: 荣成市远洋渔业有限公司	Overseas investment enterprises (institutions):	Verification code: 1485	3869	Inquire
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≡List of public list of record results of overseas investment enterprises (institutions)

Overseas investment enterprises (institutions)	Name of domestic investor	Investment country (region)
Madagascar Junlong Fishery Investment Co., Ltd.	Rongcheng Ocean Fishery Co., Ltd.	Madagascar
Tung Shing Co., Ltd.	Rongcheng Ocean Fishery Co., Ltd.	Ghana
Rongcheng Ocean Fisheries (Uruguay) Co., Ltd.	Rongcheng Ocean Fishery Co., Ltd.	Uruguay
Rongcheng Ocean Fisheries (Fiji) Co., Ltd.	Rongcheng Ocean Fishery Co., Ltd.	Fiji

8. Rongcheng Marine Fishery Co. Ltd (荣成市海洋渔业有限公司) (Rongcheng Marine Fishery) was established in August 2011 and has a registered office in Rongcheng, Shandong Province⁹⁷. According to the company's website, Rongcheng Marine Fishery has four squid fishing vessels and 24 trawl vessels, which engage in fishing operations in the Pacific, Indian Ocean, Southwest Atlantic and West Africa throughout the year, with an annual catch of more than 30,000 tonnes⁹⁸. Fisheries products are sold directly to Europe and Asia or are processed and sold back to China⁹⁹. The company launched its ocean fishery project in Ghana in 2013 and by 2015 had become one of the largest offshore fishing companies in the country with more than 20 large-scale ocean-going trawlers¹⁰⁰. According to the database of the Chinese Ministry of Commerce, the company has overseas investment enterprises in Argentina and Ghana (**Figure 8**)¹⁰¹. A number of the company's vessels (LU RONG YUAN YU 906, 907, 908, 916, 920, 967, 968 and 969) are reported to have engaged in illegal fishing in Ghana in recent years –for further details see **Section 3.3** and **Appendix**.



Image of the Lu Rong Yuan Yu 920 operating in Ghanaian waters captured by local fishers.



Image of the Lu Rong Yuan Yu 920 operating in Ghanaian waters captured by EJF. In December 2018, an EJF film crew filmed the vessel allegedly carrying out a saiko trans-shipment at sea off the coast of Elmina in the Central Region of Ghana.

Figure 8: Excerpt from the database of overseas investment enterprises for Rongcheng Marine Fishery

Public list of record results of overseas investment enterprises (institutions)

Name of domestic investor: 荣成市海洋渔业有限公司	Overseas investment enterprises (institution):	Verification code: 3869	6360	Require
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☰ List of public list of record results of overseas investment enterprises (institutions)

Overseas investment enterprises (institutions)	Name of domestic investor	Investment country (region)
Rongcheng Marine Fisheries (Argentina) Co., Ltd.	Rongcheng Ocean Fishery Co., Ltd.	Argentina
Rongcheng Fishery (Ghana) Co., Ltd.	Rongcheng Ocean Fishery Co., Ltd.	Ghana

Revenue data were obtained for all eight companies via the Orbis database (**Table 2**). The most comprehensive and recent data available were reported by Shandong Zhonglu due to its listing on the Shenzhen Stock Exchange¹⁰². Operating revenue ranged widely from US\$83,837 in 2014 for Dalian Hailufeng to US\$164.5 million in 2019 for Shandong Zhonglu¹⁰³ but in all cases the figures were considerably higher than revenue envisaged by the local registered owners in Ghana (see **Section 3.1**). Shandong Zhonglu also reported receiving a grant from the Chinese government in 2019 of ¥20.5 million (US\$3.0 million approx.) for “the development and utilization of international fishery resources”¹⁰⁴ and in 2016 reported the receipt of government fuel subsidies in the amount of ¥39.0 million (US\$5.7 million approx.)¹⁰⁵.

Box 6 provides a comparison of financial characteristics of the registered and beneficial owners of a trawler operating under the Ghanaian flag.

Table 2: Chinese companies operating industrial trawlers in Ghana

Company	Financial information	Subsidies	Registered capital	Vessel names (Ghana flag)	Number of trawlers under Ghanaian flag ¹	Active licences (trawlers) ²	% of total active licences	Countries of operation ³	Number of fishing vessels ⁴
Dalian Jinhai Ocean Fishery Development Co Ltd.	Operating revenue: US\$283,380 (2014) Total assets: US\$2,370,812 (2014) ⁵	No data	¥30 million (US\$4.5 million approx.) ⁶	JIN HAI, GUO JIN	7	5	6.7	Ghana, Guinea-Bissau	10
Dalian Hailufeng Ocean Fishery Development Co Ltd.	Operating revenue: US\$83,837 (2014) Total assets: US\$1,264,913 (2014)	No data	¥30 million (US\$4.5 million approx.)	HAI LU FENG	6	6	8.0	Angola, Cameroon, Côte d'Ivoire, Ghana and The Gambia	15
Dalian Mengxin Ocean Fishery Co Ltd.	Operating revenue: US\$21,821,101 (2018) Total assets: US\$32,346,419 (2018)	No data	¥30 million (US\$4.5 million approx.)	MENG XIN	17	15	20.0	Ghana, Sierra Leone	30
Shandong Ocean Fishery Development Corporation	Operating revenue: US\$2,861,958 (2018) Total assets: US\$15,025,974 (2018)	No data	¥75.8 million (US\$11.7 million approx.)	LONG XIANG	7	7	9.3	Ghana, Morocco	10
Dalian Lianrun Ocean Fishery Co Ltd. ⁷	Operating revenue: US\$19,668,613 (2018) Total assets: US\$26,468,263 (2018)	No data	¥30 million (US\$4.5 million approx.)	LIAN RUN	4	1	1.3	Ghana, Guinea	28
Shandong Zhonglu Oceanic Fisheries Co Ltd.	Operating revenue: US\$164,452,000 (2019) ⁸ Total assets: US\$184,418,000 (2019)	¥20.5 million (US\$3.0 million) (2019) ⁹	¥266 million (US\$41.0 million approx.)	ZHONG LU YU	2	2	2.7	Ghana, Mauritius	12
Rongcheng Ocean Fishery Co Ltd.	Operating revenue: US\$7,674,457 (2014) Total assets: US\$9,456,121 (2014) ¹⁰	No data	¥36.6 million (US\$5.7 million approx.)	LU RONG YUAN YU ¹¹	4	3	4.0	Ghana, Fiji, Madagascar, Uruguay	46
Rongcheng Marine Fishery Co Ltd	Operating revenue: US\$29,273,143 (2017) Total assets: US\$55,047,452 (2017)	No data	¥30 million (US\$4.5 million approx.)	LU RONG YUAN YU ¹²	20	18	24.0	Argentina, Ghana	27

Notes:

¹ According to licence lists published on the website of the Ministry of Fisheries and Aquaculture Development (2015-2019)
² Republic of Ghana, Ministry of Fisheries and Aquaculture Development (MoFAD), 'Vessel Registry', accessed 17.12.19. <https://www.mofad.gov.gh/publications/statistics-and-reports/vessel-registry/>.
³ According to information published by China's Ministry of Agriculture and Rural Affairs, including lists and databases of Chinese distant water fishing vessels to be inspected overseas and lists of offshore ocean fishery projects and ocean fishery enterprise qualifications, and the database of overseas investment enterprises maintained by China's Ministry of Commerce.
⁴ Estimate based on information published by China's Ministry of Agriculture and Rural Affairs, including lists and databases of Chinese distant water fishing vessels to be inspected overseas and lists of offshore ocean fishery projects and ocean fishery enterprise qualifications for the period 2017-2020.
⁵ Data in this column are derived from the Orbis database of company information: orbis.bvdinfo.com. Accessed 5.3.21.
⁶ Data in this column were obtained from the website: Qcc.com. Accessed 11.2.21.

⁷ The company has since been renamed as Dalian Ruitaifeng Pelagic Fishery Ltd.
⁸ Global operating revenue.
⁹ Shandong Zhonglu Oceanic Fisheries Co. Ltd (2020). *Annual Report for the Year of 2019*. In 2019, the company received ¥20,504,756.24 (US\$3.0 million approx.) in government grants for the development and utilization of international fishery resources from Qingdao finance bureau. Additional government grants of ¥1,621,411 (US\$238,776 approx.) and ¥85,376 (US\$12,573 approx.) were received for the company's tuna operations and for shipbuilding, respectively. In 2016, the company received government fuel subsidies of ¥39.0 million (US\$5.7 million approx.). For further information see: Shandong Zhonglu Oceanic Fisheries Co. Ltd (2020). *Annual Report for the Year of 2019*, and Shandong Zhonglu Oceanic Fisheries Co. Ltd (2017). *Annual Report for the Year of 2016*.
¹⁰ Data in Orbis for group owner Rongcheng Deep-sea Fisheries Co Ltd. Specific information could not be obtained for Rongcheng Ocean Fishery Co Ltd.
¹¹ LU RONG YUAN YU 219, 220, 956, 959
¹² LU RONG YUAN YU 906, 907, 908, 909, 910, 916, 917, 918, 919, 920, 926, 927, 928, 929, 930, 966, 967, 968, 969, 970

Box 4:

Dalian Lianrun Ocean Fishery Co. Ltd – reflagging of vessels between Ghana and China

Dalian Lianrun Ocean Fishery Co. Ltd (**Dalian Lianrun**) is listed in China’s overseas vessel inspection lists for 2017¹⁰⁶ and 2018¹⁰⁷ as the operator of four vessels –LIAN RUN 29, 30, 43 and 44 –that have received licences to fish in Ghanaian waters under the Ghanaian flag.

Details of the commercial history of the four vessels are set out in **Figure 9** below. All four vessels were re-flagged from China to Ghana in 2016-2017. LIAN RUN 29 and 30 received licences to fish in Ghana in 2016¹⁰⁸. LIAN RUN 43 and 44 received licences to fish in Ghana in 2017 and 2018¹⁰⁹. The vessels remained under the Ghanaian flag for just two or three years, before re-flagging back to China in 2019. In 2019, Dalian Lianrun changed its name to Dalian Ruitaifeng Pelagic Fishery Co. Ltd and renamed its fleet of vessels from “LIAN RUN” to “RUI TAI FENG”¹¹⁰. RUI TAI FENG 801, 905, 906 (LIAN RUN 29, 43 and 44, respectively) were licensed to fish in Guinea under the Chinese flag in March 2020¹¹¹.

In February 2018, the Chinese Ministry of Agriculture and Rural Affairs suspended the distant water fisheries certificate of Dalian Lianrun following repeated illegal fishing infringements in West Africa¹¹². However, the company’s vessels, LIAN RUN 43 and 44, continued to operate under the Ghanaian flag, receiving licences to fish in Ghana from 1 January to 30 June 2018¹¹³.

In 2019, the owners of LIAN RUN 43 reportedly reflagged the vessel to China and relocated the vessel to Guinea without alerting the Ghana Maritime Authority and Fisheries Commission to delete the vessel from the fleet register¹¹⁴. LIAN RUN 44 continued to appear on the Ghanaian licence list in June 2020¹¹⁵ despite also appearing on Guinea’s licence list as the China-flagged vessel RUI TAI FENG 906¹¹⁶.

RUI TAI FENG 905 and 906 are both listed in the Guinean licence list¹¹⁷ and IHS Sea-web with a GRT of 362. However, when operating in Ghana under the names LIAN RUN 43 and 44, the vessels were licensed based on a GRT of 250, a discrepancy of 45%. In Ghana, a licence fee of US\$55 is applicable per GRT in excess of 300 GRT under the 2010 Fisheries Regulations, LI 1968¹¹⁸. In practice, however, trawlers applying for fishing licences in Ghana are subject to tonnage restrictions and should not exceed 300 GRT¹¹⁹.

Figure 9: Commercial history for LIAN RUN 29, 30, 43 and 44

Date	Name	Flag	Group Owner	Shipmanager	Operator	DOC Company	Registered Owner	Price
2019-07	RUI TAI FENG 801	China, People's Republic Of	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic		Dalian Ruitaifeng Pelagic	
2016-08						Unknown		
2016-04		Ghana		Deedor Co Ltd	Deedor Co Ltd		Deedor Co Ltd	
2014-01	Lian Run 29	China, People's Republic Of	Unknown					
Date	Name	Flag	Group Owner	Shipmanager	Operator	DOC Company	Registered Owner	Price
2019-07	RUI TAI FENG 912	China, People's Republic Of	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic		Dalian Ruitaifeng Pelagic	
2016-08						Unknown		
2016-04		Ghana		Deedor Co Ltd	Deedor Co Ltd		Deedor Co Ltd	
2014-01	Lian Run 30	China, People's Republic Of	Unknown					
Date	Name	Flag	Group Owner	Shipmanager	Operator	DOC Company	Registered Owner	Price
2019-07	RUI TAI FENG 905	China, People's Republic Of	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic		Dalian Ruitaifeng Pelagic	
2017-11				AS Domdanq Ltd	AS Domdanq Ltd		AS Domdanq Ltd	
2017-01		Ghana						
2016-07						Unknown		
2015-01	Lian Run 43	China, People's Republic Of	Unknown	Shao KS	Shao KS		Shao KS	
Date	Name	Flag	Group Owner	Shipmanager	Operator	DOC Company	Registered Owner	Price
2019-07	RUI TAI FENG 906	China, People's Republic Of	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic	Dalian Ruitaifeng Pelagic		Dalian Ruitaifeng Pelagic	
2017-01		Ghana		Connado Enterprises Ltd	Connado Enterprises Ltd		Connado Enterprises Ltd	
2016-07						Unknown		
2015-01	Lian Run 44	China, People's Republic Of	Unknown	Shao KS	Shao KS		Shao KS	

Source: IHS Sea-web database of ships

Box 5:

Engagement of Shandong Zhonglu Oceanic Fisheries Co Ltd in Ghana's trawl industry

Ghanaian company Yaw Addo Fisheries Co Ltd (**Yaw Addo**) is listed as the registered owner of two industrial trawl vessels in Ghana's 2020 fishing licence list: ZHONG LU YU 1003 and ZHONG LU YU 1004¹²⁰.

In its Annual Reports, Chinese company Shandong Zhonglu Oceanic Fisheries Co Ltd (**Shandong Zhonglu**) states that it exerts control over the "operational entity" Yaw Addo "through control over operating leases". Yaw Addo is described as a "Special purpose vehicle controlled by the Company"¹²¹.

Table 3: Information on Yaw Addo in Shandong Zhonglu's Annual Report for 2014

VII. Special purpose vehicle controlled by the Company

Name	Main business contact with the Company	Amount of main assets at period-end confirmed in consolidation statement (¥)	Amount of liabilities at period-end confirmed in consolidation statement (¥)
Yaw Addo Fisheries Company Limited	Leasing management	6,904,404.54	17,026,370.90

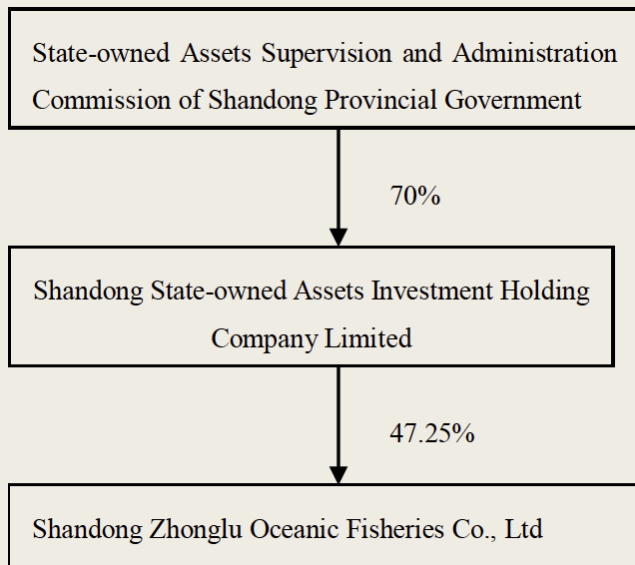
The website of Shandong Zhonglu dedicates a specific page to the operations of Yaw Addo (**Figure 10**) and lists the vessels ZHONG LU YU 1003 and 1004 as among the company's fleet. In its 2019 Annual Report, the company reports that: "The output and yield from Ghana trawling project have achieved a growth from a year earlier while insufficient in profitability overall. The main obstacles to the development of the project including narrow fishing ground, the reduction of trawl species resources and aging of the vessels."¹²² The company also operates at least two tuna vessels in Ghana via joint ventures¹²³.

Figure 10: Screenshot from the website of Shandong Zhonglu Oceanic Fisheries Co. Ltd¹²⁴



State-owned enterprises are the majority shareholders in Shandong Zhonglu. Shandong State-owned Asset Investment Holding Co. Ltd¹²⁵ is the ultimate controlling entity, holding 47.25% of the shares in the company¹²⁶. The registered capital of Shandong Zhonglu is ¥266 million (US\$41.0 million approx.).

Figure 11: Structure of controlling entities of Shandong Zhonglu



Source: Shandong Zhonglu Oceanic Fisheries Co. Ltd (2020). Annual report for 2019.

In 2019, Shandong Zhonglu received ¥20,504,756 (US\$3.0 million approx.) in government grants for the development and utilisation of international fishery resources and reported operating revenue from its Ghana operations of ¥214,190,805 (US\$31.3 million approx.) (Table 4)¹²⁷. In 2016, the company reported the receipt of government fuel subsidies valued at ¥39.0 million (US\$5.7 million approx.)¹²⁸.

Table 4: Reported operating revenue of Shandong Zhonglu from all operations in Ghana (i.e. including trawl, tuna and other operations)

	Operating revenue (¥)	Operating revenue (US\$)*
2014	12,155,710.73	1,779,518.25
2015	15,188,831.26	2,223,547.69
2017	21,347,108.49	3,125,080.06
2019	214,190,805.60	31,293,276.60

Source: published annual reports of Shandong Zhonglu

*Exchange rate as at 10 September 2020.

The company's vessel, ZHONG LU YU 1004, was recently the subject of legal proceedings for infractions that took place in October 2019 including dumping of juvenile fish, possession of illegal nets with a mesh size of less than 60 mm and illegal trans-shipment, which resulted in a fine of GH¢6,000 (US\$1,050 approx.) paid by the vessel owners. The vessel owners had previously failed to appear before the Takoradi Circuit Court in June 2020, resulting in an additional amount (bond) of US\$60,000 being forfeited to the state¹²⁹. Further infractions involving the company's vessels are listed in the **Appendix**.

In Ghana, the majority of IUU fishing offences carry a minimum fine of US\$1 million under the 2014 Fisheries (Amendment) Act (Act 880). However, fines are generally imposed at well below the statutory minimum (see **Section 3.3** and **Appendix**). The data presented above on revenue and subsidies highlight the importance of identifying the vessel's beneficial owner in prosecutions to ensure effective, proportionate and dissuasive sanctions are applied. This is also critical to the implementation of China's distant water fishing policy, including the removal of state subsidies from companies involved in illegal fishing¹³⁰.

Box 6:

Comparison of revenue of local and foreign partners in industrial trawl ventures

Ghanaian company Connado Enterprises Limited (**Connado Enterprises**) is the registered owner of the vessel LU RONG YUAN YU 919, among others. This vessel is (beneficially) owned by Chinese company Rongcheng Marine Fishery Co. Ltd (**Rongcheng Marine**), which in turn is part of the larger group Shandong Bodelong Group Co. Ltd (**Shandong Bodelong**)¹³¹.

According to information held by the Registrar-General's Department, Connado Enterprises' envisaged annual revenue is GH¢10,000 (US\$2,200 approx.) and the envisaged number of employees is two.

In contrast, Rongcheng Marine has assets of around US\$62.5 million and reports an annual production value of more than US\$47 million. The group owner, Shandong Bodelong has fixed assets of around US\$300 million, an annual revenue of around US\$400 million and employs 2,000 individuals¹³².

These discrepancies highlight the importance of considering the beneficial owner when determining the level of sanctions for fisheries-related violations, to ensure they target the true beneficiaries of illegal fishing and that they have a deterrent effect (see **Section 3.3**). National laws must be designed to ensure beneficial owners can be identified and held to account for their acts.



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3.2. Licensing revenue

Until 2019, the licence fees for industrial trawlers fishing in Ghana were set at US\$35/GRT/annum for vessels up to 300 GRT¹³³. While the 2010 Fisheries Regulations, LI 1968, provide for a licence fee of US\$55/GRT/annum for trawlers in excess of 300 GRT¹³⁴, the current licensing guidelines do not permit trawlers over 300 GRT to apply for a licence¹³⁵.

In 2019, the parliament of Ghana approved an increase in the licence fee to US\$200/GRT/annum¹³⁶. However, following consultations with industry, the fee of US\$200/GRT/annum was reduced to US\$135/GRT/annum which has been applied in 2020¹³⁷.

Table 5 shows the licensing revenue collected by the Fisheries Commission for industrial trawl licences in 2017 and 2018 which totalled on average US\$525,000 per annum, or around US\$5,900 per vessel. This equated to 0.4% of the value of landings of the trawl fleet in 2018. Even with the increased licence fee of US\$135/GRT/annum applied in 2020 (**Table 6**), annual licence fees would represent just 1.9% of the landed value of fisheries products in 2018.

Table 6 details projected licensing revenue for the Ghanaian trawl sector based on the three scenarios of US\$35/GRT, US\$135/GRT and US\$200/GRT per annum. The figures are based on a calculation of the total tonnage of the 75 trawlers operating in Ghana at the end of 2019. Projected revenue increases from US\$568,876 to over US\$2 million per annum with the increase in licence fee from US\$35/GRT/annum to the current rate of US\$135/GRT, and to over US\$3 million per annum with an increase in licence fee to US\$200/GRT.

Table 7 sets out comparisons between the projections in **Table 6** and projections based on licensing fees charged by other coastal states in the region for foreign vessels to access fisheries resources within their EEZs. Where fees are charged in other countries based on landings (volume or value) rather than vessel tonnage, a figure of 33,645 metric tonnes¹³⁸ valued at GH¢552,921,872 (US\$116,160,057 approx.) was used for the reported landings of the Ghana-flagged trawl fleet¹³⁹. A figure of 100,000 tonnes with a value of US\$50 million was used as a basis to estimate revenue for illegal and unreported catches (**Table 8**), based on the 2017 estimate in the *Stolen at Sea* report published by EJF and Hen Mpoano in 2019¹⁴⁰.

Table 5: Licensing revenue collected for the Ghanaian trawl fleet in 2017 and 2018

	Number of operational vessels	Licence fees collected (GH¢)	Licence fees/vessel (GH¢)	Value of landings (GH¢)	Licence fees collected (US\$)	Licence fees/vessel (US\$)	Value of landings (US\$)	Licence fees as % of landed value
2017	94	2,503,206	26,630	-	571,508*	6,080*	-	-
2018	82	2,258,327	27,541	552,921,872	474,438**	5,786**	116,160,057**	0.4%

Source: Fisheries Commission (2019). *Annual Report for 2018*. April 2019. Unpublished.

*Historical GHS-USD exchange rate on 30 June 2017

**Historical GHS-USD exchange rate on 30 June 2018

Table 6: Projected licensing revenue for industrial trawlers operating in Ghana under three scenarios

	Description	Status	Licence fee (demersal)	Based on vessel tonnage or catch	Estimated revenue (US\$) based on tonnage of trawlers in Ghana at the end of 2019 ¹ "Revenue estimate: Ghana"	Fees per trawler in Ghana operating at the end of 2019 (US\$) ²
1	Fee set out in 2010 Fisheries Regulations, LI 1968	Applied to end of 2019	US\$35/GRT/annum	Vessel tonnage	568,876	7,595
2	Revised fee	Applied in 2020	US\$135/GRT/annum	Vessel tonnage	2,194,236	29,295
3	Proposed licence fee increase	Approved by Cabinet and Parliament but subsequently reduced following consultations with industry	US\$200/GRT/annum	Vessel tonnage	3,250,720	43,400

Notes:

¹ Based on 75 trawlers of a total 16,253.60 GRT operating in Ghana at the end of 2019.

² Based on an average of 217 GRT per vessel operating in Ghana at the end of 2019.

The projections based on vessel tonnage indicate that Ghana could have achieved an additional US\$0.7-US\$8.4 million per annum by applying a licence fee closer to fees charged by other West African countries (Guinea, Guinea-Bissau, Morocco and The Gambia) for foreign vessels fishing in their waters (**Table 7**). The historical fee of US\$35/GRT/annum charged by Ghana up to the end of 2019 was the lowest of the licence fees identified.

Up to the end of 2019, licence fees for an average demersal trawler in Ghana (217 GT) were US\$7,595 per annum. This compares to US\$16,926 per annum for a foreign trawler of this size operating in The Gambia, and US\$119,350 per annum for a foreign trawler of this size operating in Guinea (**Table 7**). It is also worth noting that in Guinea, vessel operators pay additional contributions for monitoring, control and surveillance, data collection, and the fisheries observer programme, which are set at around US\$10,425 per vessel per year, and which make a significant contribution to government revenue from the sector¹⁴¹.

The projections based on fees charged on landings (in Liberia, Mauritania, Senegal and The Gambia) suggest even higher revenues could have been generated by Ghana's trawl sector. Comparing these fees with revenue based on the historical fee in Ghana of US\$35/GRT/annum found an additional US\$2.6-11.0 million in revenue could have been generated annually in licensing fees from the trawl sector.

The results further show that even with the increase in licence fees to US\$135/GRT/annum, Ghana may still be undervaluing its fisheries resources by around: (i) US\$2.4-6.7 million annually, considering licence fees applied to foreign vessels based on vessel tonnage in Guinea, Guinea-Bissau and Morocco, and (ii) US\$0.9-9.4 million

annually, considering licence fees applied to foreign vessels based on landings in Liberia, Mauritania, Senegal and The Gambia.

In addition, fees on illegal and unreported catches landed through saiko could have generated US\$5-11 million in annual state revenue had the catches been duly reported and fees charged based on landings as is the current practice in Liberia, Mauritania, Senegal and The Gambia (**Table 8**). This is around 10-20 times the total licensing revenue collected by the government of Ghana for trawl vessels in 2017 and 2018. It is noted that certain SFPAs, such as that for The Gambia, include specific clauses prohibiting trawlers from retaining on board, transshipping, landing, storing or selling pelagic species, including *Trachurus* spps., *Sardina pilchardus*, *Scomber* spps. and *Sardinella* spp¹⁴². Small pelagic species, such as *Sardinella* spp., have been observed in significant quantities in catches traded illegally through saiko by Ghana's industrial trawl fleet (**Box 2**).

Table 9 compares licensing revenue based on various scenarios of trawler numbers operating in Ghana (75, 50, 25, 10 and 5 vessels, respectively). Licensing revenues are projected for these scenarios based on: (i) the historical licence fee in Ghana of US\$35/GRT/annum; (ii) the proposed licence fee in Ghana of US\$200/GRT/annum; and (iii) the fee of US\$550/GRT/annum applied by Guinea to foreign trawlers targeting cephalopods and finfish¹⁴³ (as a point of comparison with neighbouring coastal states). The projections in **Table 9** show that Ghana could reduce trawler numbers to around 10 vessels and yet double the revenue generated in 2018 (**Table 5**) if it were to align licence fees with those applied by Guinea, or, indeed, remain broadly revenue neutral (at 2018 levels) with just five licensed trawl vessels.

Blocks of saiko fish trans-shipped from trawlers and landed at Elmina port.



Table 7: Estimated revenue potential generated by Ghana's trawl sector based on licence fees applied to foreign demersal trawlers in the region

Country (source)	Foreign licence fee (year, demersal trawl)	Based on vessel tonnage or catch	Estimated potential revenue based on trawler tonnage in Ghana* (US\$/annum) ¹	Estimated potential revenue per trawler in Ghana (US\$/annum) ²	Estimated potential revenue based on reported catches by trawlers in Ghana** (US\$/annum) ³	Additional licence fees (US\$/annum)	Comparison with revenue based on US\$35/GRT/annum licence fee (US\$) ⁴	Comparison with revenue based on US\$135/GRT/annum licence fee (US\$) ⁵	Comparison with revenue based on US\$200/GRT/annum licence fee (US\$) ⁶
Licensing fees based on vessel tonnage									
Guinea (Management Plan, 2018 ⁷)	2018 Foreign trawlers targeting cephalopods and finfish: US\$550/GRT ⁸	Vessel tonnage	8,939,480	119,350	-	-	8,370,604	6,745,244	5,688,760
Guinea-Bissau (EU SFPA ⁹)	2019-2020 Finfish and cephalopods: €282/GRT/year (US\$332/GRT/year approx.) ¹⁰	Vessel tonnage	5,396,195	72,044	-	-	4,827,319	3,201,959	2,145,475
Morocco (EU SFPA)	2019-2023 Bottom trawl: €60/GT/quarter (US\$71/GT/quarter approx.) ¹¹	Vessel tonnage	4,616,022	61,628	-	-	4,047,146	2,421,786	1,365,302
The Gambia (Fisheries (Amendment) Regulations, 2017)	Current Foreign vessels: GMD 4,062.50/GRT/year (US\$78 approx.)	Vessel tonnage	1,267,781	16,926	-	-	698,905	(926,455)	(1,982,939)
Licensing fees based on landings									
Liberia (2010 Fisheries Regulations)	Current Access fees calculated as 10% of the vessel catch and by-catch during licensing period	Catch	-	-	11,616,006	-	11,047,130	9,421,770	8,365,286
Mauritania (EU SFPA)	2019-2020 Cuttlefish: €250/tonne (US\$294/tonne approx.) ¹²	Catch	-	-	9,891,630	-	9,322,754	7,697,394	6,640,910
Senegal (EU SFPA)	2019-2024 Bottom trawl: €95/tonne (US\$112 approx./tonne) + advance licence payment of €500/vessel/quarter (US\$589 approx.) ¹³	Catch	-	-	3,768,240	176,700 (licence fee)	3,376,064	1,750,704	694,220
The Gambia (EU SFPA)	2019-2025 Bottom trawl: €75/tonne (US\$88 approx./tonne) + advance licence payment of €500/vessel/quarter (US\$589 approx.) ¹⁴	Catch	-	-	2,960,760	176,700 (licence fee)	2,568,584	943,224	(113,260)

* "Potential revenue: tonnage"

** "Potential revenue: landings"

Notes:

¹Based on 75 trawlers of a total 16,253.60 GRT operating in Ghana at the end of 2019.
²Based on an average of 217 GRT per vessel operating in Ghana at the end of 2019.
³Based on 33,645 metric tonnes reported as landed by the trawl fleet in 2018 with a value of GH¢552,921,872 (US\$116,160,057 approx.) according to the 2018 Annual Report of the Fisheries Commission (2019 data not available at the time of writing).
⁴Calculated according to the following formula: "Potential revenue: tonnage" OR "Potential revenue: landings" (Table 7) MINUS "Revenue estimate: Ghana (Row 1)" (Table 6)
⁵Calculated according to the following formula: "Potential revenue: tonnage" OR "Potential revenue: landings" (Table 7) MINUS "Revenue estimate: Ghana (Row 2)" (Table 6)
⁶Calculated according to the following formula: "Potential revenue: tonnage" OR "Potential revenue: landings" (Table 7) MINUS "Revenue estimate: Ghana (Row 3)" (Table 6)
⁷To note, Guinea has introduced new licence fees in 2020 based on GT, however the 2018 figures are used in these calculations to ensure equivalence with Ghanaian licence fees based on GRT. In the 2018 Management Plan, Guinea applied a lower fee of US\$450 for demersal trawlers with Guinean nationality targeting finfish and cephalopods (compared to US\$550 for vessels of foreign nationality). From 2019, Guinea has also separated licence fees for demersal finfish and cephalopods, with cephalopod trawlers licensed at a higher fee of US\$580/GRT (for foreign vessels). The Management Plans for 2017-2020 are available at the following link: <http://www.peches.gov.gn/index.php/plan-d-amenagement> (accessed 3.9.20).
⁸ Additional payments for monitoring, control and surveillance, data collection, fisheries observers, etc., which are set at around US\$10,425/vessel/year, are not included in this calculation but make a significant contribution to government revenue from the sector in Guinea. These payments would alone equate to revenue of US\$781,875 based on 75 licensed trawlers. See: République de Guinée (2019). *Plan d'Aménagement et de Gestion des Pêcheries pour l'année 2020*. Ministère des Pêches, de l'Aquaculture et de l'Economie Maritime. http://www.peches.gov.gn/images/PDF/actes_administratifs/arretes/PAGP%202020%20MPAEM%20DNAE.pdf
⁹ In line with figures in national legislation of Guinea-Bissau.
¹⁰ Licence fees for the first two years of the protocol. Duration of protocol is 2019-2024.

See: Appendix 2, Protocol on the implementation of the Fisheries Partnership Agreement between the European Community and the Republic of Guinea-Bissau (2019-2024). OJ L 173/3, 27.6.2019. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0627\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0627(01)&from=EN)
¹¹ See: Appendix 2, Sustainable Fisheries Partnership Agreement between the European Union and the Kingdom of Morocco. OJ L 77/8, 20.3.2019. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0320\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0320(01)&from=EN). Trawlers are only permitted to operate beyond the 200m isobath.
¹² Fees for Black Hake (freezer) trawlers with Total Allowable Catch of 1,450 tonnes of squid and 600 tonnes of cuttlefish (secondary target species). Fees for squid are €575/tonne (US\$677/tonne approx.), however, the fee for cuttlefish is used here to ensure a conservative estimate. See: Appendix 1, Protocol setting out the fishing opportunities and financial contribution provided for in the Fisheries Partnership Agreement between the European Community and the Islamic Republic of Mauritania for a period of four years. OJ L 315/3, 1.12.2015. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02015A1201\(01\)-20191116&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02015A1201(01)-20191116&from=EN)
¹³ Target species is deep-water hake (*Merluccius senegalensis* and *Merluccius polli*), but with an authorised by-catch of 15 % cephalopods, 5 % crustaceans and 20 % other deep-water demersal fish. The SFPA prohibits the retention on board, transshipment, landing, storage and sale of pelagic species, among which *Trachurus* spp., *Sardina pilchardus*, *Scomber* spp. and *Sardinella* spp. See: Appendix 2, Protocol on the implementation of the Agreement on a Sustainable Fisheries Partnership between the European Union and the Republic of Senegal. OJ L 299/13, 20.11.2019. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A1120\(02\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A1120(02)&from=EN)
¹⁴ For demersal trawlers targeting deep-water hake (*Merluccius senegalensis* and *Merluccius polli*), but with an authorised by-catch of 15% cephalopods. The permitted fishing zone is beyond 12 nautical miles from the baseline. The SFPA prohibits the retention on board, transshipment, landing, storage and sale of pelagic species, among which *Trachurus* spp., *Sardina pilchardus*, *Scomber* spp. and *Sardinella* spp. See: Appendix 2b, Sustainable Fisheries Partnership Agreement between the European Union and the Republic of the Gambia. OJ L 208/3, 8.8.2019. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0808\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0808(01)&from=EN)

Table 8: Potential revenue on catches landed illegally and unreported by trawlers in Ghana

Country	Source	Year	Licence fee (demersal)	Based on vessel tonnage or catch	Estimated potential revenue based on illegal and unreported catches by trawlers in Ghana (US\$) ¹
Liberia	2010 Fisheries Regulations	Current	Access fees calculated as 10% of the vessel catch and by-catch during licensing period	Catch (value)	5,000,000
Mauritania	EU SFPA	2019-2020	<u>By-catch</u> : €90/tonne (US\$106/tonne approx.) ²	Catch (tonnage)	10,600,000
Senegal	EU SFPA	2019-2024	<u>Bottom trawl</u> : €95/tonne (US\$112/tonne approx.) ³	Catch (tonnage)	11,200,000
The Gambia	EU SFPA	2019-2025	<u>Bottom trawl</u> : €75/tonne (US\$88/tonne approx.) ⁴	Catch (tonnage)	8,800,000

Notes:

¹ Based on an estimate of 100,000 tonnes or US\$50 million of fishery products landed illegally through saiko in 2017. See: EJF and Hen Mpoano (2019). *Stolen at sea: How illegal 'saiko' fishing is fuelling the collapse of Ghana's fisheries*. <https://ejfoundation.org/reports/stolen-at-sea-how-illegal-saiko-fishing-is-fuelling-the-collapse-of-ghanas-fisheries>

² Appendix 1, *Protocol setting out the fishing opportunities and financial contribution provided for in the Fisheries Partnership Agreement between the European Community and the Islamic Republic of Mauritania for a period of four years*. OJ L 315/3, 1.12.2015. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02015A1201\(01\)-20191116&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02015A1201(01)-20191116&from=EN)

³ Appendix 2, *Protocol on the implementation of the Agreement on a Sustainable Fisheries Partnership between the European Union and the Republic of Senegal*. OJ L 299/13, 20.11.2019. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A1120\(02\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A1120(02)&from=EN)

⁴ Appendix 2b, *Sustainable Fisheries Partnership Agreement between the European Union and the Republic of the Gambia*. OJ L 208/3, 8.8.2019. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0808\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:22019A0808(01)&from=EN).

Table 9: Projected revenue based on five scenarios of trawler numbers operating in Ghana

Number of trawlers	Total fleet GRT ¹	Projected licensing revenue based on licence fee of US\$35/GRT/annum ² (US\$/annum)	Projected licensing revenue based on licence fee of US\$200/GRT/annum ³ (US\$/annum)	Projected licensing revenue based on licence fee of US\$550/GRT/annum ⁴ (US\$/annum)
75	16,275	569,625	3,255,000	8,951,250
50	10,850	379,750	2,170,000	5,967,500
25	5,425	189,875	1,085,000	2,983,750
10	2,170	75,950	434,000	1,193,500
5	1,085	37,975	217,000	596,750

Notes:

¹ Based on average of 217 GRT per vessel

² Historical licence fee applied by Ghana up to the end of 2019.

³ Proposed licence fee increase in Ghana.

⁴ Licence fee applied by Guinea for foreign trawlers targeting cephalopods and finfish (2018)

3.3. Enforcement revenue

Table 10 provides an analysis of enforcement revenue due and paid for offences brought before the Settlement Committee in 2015. Based on the minimum fines set out in the legislation, a total of US\$13 million should have been issued and paid to the government by the offenders concerned. In practice, fines totalling US\$996,320 (approx.) were imposed (7.7% of the statutory minimum payable), of which only US\$357,517 (2.8%) was actually paid to the state¹⁴⁴. This represents a loss of enforcement revenue in 2015 of US\$12,642,483. According to Section 116(1) of the 2002 Fisheries Act (Act 625), the minimum fine is payable whether the case is settled within or out of court.

Table 11 provides an analysis of enforcement revenue due and paid for offences brought before the Settlement Committee in 2018¹⁴⁵. Based on the minimum fines set out in the legislation, a total of US\$17.1 million should have been imposed and paid to the government by the offenders concerned. In practice, fines totalling US\$173,109 (approx.) were imposed on offenders¹⁴⁶. With fines already paid in relation to 11 out of the 19 cases heard in 2018, almost US\$17 million had yet to be recovered from offenders in accordance with the law. Further details of the cases heard by the Settlement Committee in 2018 and 2019 are provided in the **Appendix**.

Table 10: Outcomes of fisheries out of court settlements in 2015

Date of arrest	Vessel name	Registered owner	Offence	Legal provision	Minimum fine (US\$)	Amount of fine imposed (US\$) ¹	Amount of fine paid (US\$)
15.1.15	MV LUYU 902 (AF 596)	Winemas Co. Ltd.	Fishing with a net of undersized mesh size	Section 88A(1)(f), Act 880	1,000,000	12,042	12,042
30.1.15	MV ASONA (AF 617)	Legon Fishing Co	Failure to document properly in log book. Failure to ensure safe boarding of inspection officers	Section 88A(1)(b), Act 880	1,000,000	5,079	5,079
11.4.15	LU RONG YUAN YU 959 (AF 741)	Rockpoint Co. Ltd.	Taking on board undersized fish	Section 88A(1)(j), Act 880	1,000,000	262,560	52,356
12.4.15	JIN HAI 605 (AF 744)	Itavan Ventures	Taking on board undersized fish	Section 88A(1)(j), Act 880	1,000,000	253,416	57,618
12.4.15	JIN HAI 608 (AF 745)	Itavan Ventures	Taking on board undersized fish	Section 88A(1)(j), Act 880	1,000,000	260,157	52,356
16.4.15	MENG XIN 16 (AF 726)	Kenbonad Fisheries Ltd.	Fishing for juveniles	Section 88A(1)(j), Act 880	1,000,000	66,702	66,702 ²
29.7.15	COMFORTER I (AF 749)	Boatacom Ltd.	Harvesting juvenile fish Use of top-side chafers	Section 88A(1)(f) and (j), Act 880	1,000,000	52,618	27,618
30.7.15	MENG XIN II (AF 660)	Bossgie Ltd.	Use of topside chafers	Section 88A(1)(f), Act 880	1,000,000	785	785
5.8.15	TWIN PORT CITY 104 (AF 632)	Mass Fisheries	Use of topside chafers	Section 88A(1)(f), Act 880	1,000,000	3,181	3,181
21.8.15	TWIN PORT CITY 104 (AF 632)	Mass Fisheries	Fishing in the IEZ	Section 88A(1)(c), Act 880	1,000,000	23,096	23,096
21.8.15	SOMBO (AF 696)	Nacmana	Fishing in the IEZ	Section 88A(1)(c), Act 880	1,000,000	22,513	22,513
2.9.15	BOHYE (AF 695)	Nacmana	Fishing in the IEZ	Section 88A(1)(c), Act 880	1,000,000	21,083	21,083
9.11.15	LU RONG YUAN YU 916 (AF 731)	Reonq Fishing Co. Ltd.	Use of topside chafers	Section 88A(1)(f), Act 880	1,000,000	13,089	13,089
Total					13,000,000	996,321	357,518
% of minimum fine payable						7.67%	2.75%

Source: Information on offences and outcomes from Friends of the Nation (2015). *Baseline for Prosecutions: Summary of Fisheries Arrests and Prosecution in the Western and Eastern Commands*. The USAID/Ghana Sustainable Fisheries Management Project (SFMP). Narragansett, RI: Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island and Friends of the Nation. GH2014_POLO13_FoN. 30 pp. http://www.crc.uri.edu/download/GH2014_POLO13_FoN_FIN508.pdf

Notes:

¹ Based on exchange rate on 30 June 2015.

² Requested to pay in tranches. Not known if full amount paid.



Images of the Meng Xin 16 (top left), Sombo (top right), Bohye (bottom left) and Jin Hai 605 (bottom right) captured by local fishers in Ghana's waters.

Table 11: Infractions brought for out of court settlement in 2018

Type of infringement	Minimum fine (US\$)	Legal provision	Number	Total payable per legislation (US\$)	Total fine imposed to date (US\$) ¹	Outcome
Unsupervised trans-shipment of fish from trawlers to canoes	100,000 ²	Section 132, Act 625; Reg. 33(2), LI 1968	1	100,000	173,109	Fines paid
Fishing in IEZ	1,000,000	Section 88A(1)(c), Act 880	4	4,000,000		Not known
Dumping of juvenile fish at sea	1,000,000	Section 88A(1)(j), Act 880	5	5,000,000		Fines paid
Use of double/undersized mesh by trawlers to fish	1,000,000	Section 88A(1)(f), Act 880	6	6,000,000		4 offenders paid fines, 2 cases pending
Prohibited methods of fishing	1,000,000	Section 88A(1)(f), Act 880	1	1,000,000		Not paid
Landing in Côte d'Ivoire	10,000	Section 134, Act 625	1	10,000		Fine paid
Juvenile fish found on board	1,000,000	Section 88A(1)(j), Act 880	1	1,000,000		Pending
Total			19	17,110,000	173,109³	

Source: Infraction information set out in Fisheries Commission (2019). *Annual Report for 2018*. April 2019. Unpublished.

Notes

¹ Based on GHS-USD exchange rate on 30 June 2018

² The fine for trans-shipment at sea between a trawler and canoe can range from US\$100,000 to US\$2 million (Section 132(2)(a) of the 2002 Fisheries Act, Act 625), or at least US\$1 million where the trans-shipment involves juvenile fish (Section 88A(1)(j), Fisheries Amendment Act, Act 880) or fish caught using prohibited fishing gear (Section 88A(1)(f), Fisheries Amendment Act, Act 880).

³ The 2018 Annual Report of the Fisheries Commission states that of the GHc824,000 (US\$173,109 approx.) imposed on offenders in 2018, GHc196,000 (US\$41,176 approx.) was paid into the Fisheries Development Fund. It is unclear whether the remaining amount was paid into another account or remained unpaid at the time of the report.

Box 7:

Non-payment of fines and repeat offences of the LU RONG YUAN YU 956 – a vessel operated by a Chinese company in Ghana



The arrested vessel Lu Rong Yuan Yu 956 at port.

On 17 June 2019, the LU RONG YUAN YU 956 was apprehended with 405 boxes and 864 slabs of frozen mixed small pelagic fish species on board, generally below the minimum landing size. Other fisheries infractions included non-reporting of catch on board, and use of under-sized mesh nets¹⁴⁷.

The Fisheries Commission confirmed that the vessel had docked at Tema port but failed to report a portion of its catch. It had then left Tema with the fish on board, with the intention of allegedly trans-shipping the fish at sea to a saiko canoe¹⁴⁸. In October 2019, an out-of-court settlement committee imposed a fine of US\$1 million on the owner of the vessel, and an additional GH¢124,000 (US\$23,000 approx.) for the fish on board the vessel at the time of arrest. However, the registered owner, Gynam Fisheries and Sons Ltd, has since refused to pay, resulting in the matter reverting to court¹⁴⁹. Despite having failed to pay the fine, the vessel was relicensed to fish in Ghanaian waters. In May 2020 the vessel was arrested for a second time for almost identical offences, including the use of under-sized mesh nets and having juvenile fish, including sardinella, on board¹⁵⁰.

At a hearing in July 2020, the court directed both cases involving the LU RONG YUAN YU 956 to be heard before the out-of-court settlement committee and to return to court in October 2020 to present the outcome¹⁵¹. In August 2020, the vessel continued to operate in Ghanaian and potentially also Ivorian waters¹⁵². The accused persons subsequently failed to appear before the court resulting in a bench warrant being issued for their arrest. The bench warrant was removed after the legal representative of the accused finally appeared before the court in February 2021. The cases are awaiting consideration by the out-of-court settlement committee and a further court hearing is set for April 2021 to present the outcome¹⁵³. According to the Chinese Ministry of Agriculture and Rural Affairs, the vessel LU RONG YUAN YU 956 is operated by the company Rongcheng Ocean Fishery Co Ltd (**Rongcheng Ocean Fishery**). The company operates three further trawlers in Ghana, including the Ghanaian-flagged trawler LU RONG YUAN YU 959, registered to a different local company in Ghana, Rockpoint Co. Ltd¹⁵⁴.

In 2015, the vessel LU RONG YUAN YU 959 was fined US\$250,000 and GH¢47,980 (US\$12,560 approx.) for taking on board under-sized fish – well below the US\$1 million in the 2014 Fisheries Amendment Act (Act 880) (**Table 10**). The case was subsequently settled with payment of GH¢200,000 (US\$52,356 approx.) accepted by the Ministry for Fisheries¹⁵⁵. The vessel was fined GH¢ 6,000 in 2018 for dumping fish (see **Appendix**)¹⁵⁶ and reportedly arrested again in September 2020 for allegedly catching under-sized fish and using nets with mesh below the minimum permitted size in breach of Ghana's fisheries laws¹⁵⁷.

In neither the 2015 case nor the cases from 2018-2020 was the company Rongcheng Ocean Fishery the target of the legal proceedings, even though it is a much larger entity than the local companies concerned. In 2014, Rongcheng Ocean Fishery's parent company, Rongcheng Deep-sea Fisheries, reported an operating revenue of US\$7.7 million (**Table 2**), compared to the revenue of GH¢1,000 (US\$170 approx.) envisaged by the local registered owners of the LU RONG YUAN YU 956 and 959 (Gynam Fisheries and Sons Ltd and Rockpoint Co Ltd, respectively) (**Table 1**). Furthermore, Rongcheng Ocean Fishery is reported to own 46 fishing vessels (**Table 2**), compared to the single vessel owned by each of the local companies (**Table 1**). Rongcheng Ocean Fishery's global operations extend to Fiji, Ghana, Madagascar and Uruguay, according to the Chinese Ministry of Commerce¹⁵⁸.

Box 8:

Alleged illegal activities by the MENG XIN fleet in Ghana

A 2019 investigation by China Dialogue Ocean revealed at least eight fisheries-related offences allegedly committed by the MENG XIN fleet of trawl vessels which operates in Ghana under the Ghanaian flag¹⁵⁹. The investigation showed the ultimate beneficial owner of the MENG XIN fleet to be Chinese company Dalian Mengxin Ocean Fishery Co. Ltd¹⁶⁰, as confirmed in the present study (**Table 2**). According to the Hong Kong Companies Registry, the company was dissolved on 11 October 2019, one month after the findings of the investigation were published¹⁶¹. The company's vessels continued to operate in Ghana in 2020¹⁶².

Examples of confirmed and alleged offences involving the MENG XIN fleet are set out in **Table 12** and include unauthorised trans-shipment (“saiko” – see **Box 2**). In February 2019, an EJF team filmed the vessel MENG XIN 10 carrying out an alleged trans-shipment of fish to a saiko canoe at around 12 nautical miles from shore in the Central Region of Ghana. In addition to alleged illegal fishing offences, in July 2019, a Ghanaian fisheries observer, Emmanuel Essien, went missing at sea from the vessel MENG XIN 15 during a fishing trip¹⁶³. He has not been found.



The Meng Xin 10 observed carrying out an alleged illegal trans-shipment (saiko) by EJF investigators in February 2019.

Table 12: Fisheries-related offences involving the MENG XIN fleet

Date	Vessel	Alleged/confirmed offence	Status	Outcome
December 2013	MENG XIN 5	Unauthorised trans-shipment	Complete	Settled. Fine partly paid (GH¢100,000 of GH¢346,790)
April 2015	MENG XIN 16	Fishing for juveniles	Complete	Requested to pay fine of GH¢25,600 and US\$60,000 in tranches
July 2015	MENG XIN 2	Use of top-side chafers	Complete	Fine of GH¢3,000 paid in full
June 2018	MENG XIN 2	Dumping of fish	Not known	Fine of GH¢126,000 imposed. Not paid.
August 2018	MENG XIN 29	Juvenile fish found on board	Not known	Fine of GH¢500,000 imposed. Not paid.
February 2019	MENG XIN 29	Dumping of fish	Pending ¹	
February 2019	MENG XIN 10	Alleged unauthorised trans-shipment	No information ²	

Source:

Friends of the Nation (2015). *Baseline for Prosecutions: Summary of Fisheries Arrests and Prosecution in the Western and Eastern Commands*; EJF observation of proceedings at Takoradi Circuit Court; Fisheries Commission, unpublished information on the prosecution of fisheries infractions, 2018 and 2019.

Notes:

¹ Awaiting hearing by the out-of-court settlement committee. Anon, Takoradi Circuit Court, pers. comm. to EJF, August 2020.

² Footage of vessel obtained during EJF monitoring at sea.

Findings and way forward

The findings of this research indicate that Ghana is substantially undervaluing its fisheries resources in arrangements with Chinese fishing companies to license vessels under the Ghanaian flag.

Overall, it is estimated conservatively that Ghana could be generating an additional US\$14.4-23.7 million annually from its trawl sector by way of licence fees for access to its fisheries and enforcement revenue for fisheries-related infringements. The concealment of beneficial ownership behind local front companies may serve to justify the application of low licence fees and the imposition of financial penalties at well below the statutory minimum. Indeed, there have been attempts by industry to contest a recent fee increase, while prosecutions continue to target only the registered owners of the vessels with limited financial means to pay. This situation has resulted in significantly lower revenue streams than in other foreign-exploited coastal bottom trawl fisheries in the region.

Projections of licensing revenue based on fees and royalties payable in other coastal states in the region suggest Ghana could be generating an additional US\$2.4-6.7 million annually by increasing its fees from the current level of US\$135/GRT/annum. The projections in this study are based on fees charged primarily under SFPA between West African coastal states and the EU, which have come under their own criticism for being too low¹⁶⁴.

Total licensing revenue in Ghana is insignificant compared to the landed value of catches by the industrial trawl fleet. In 2018, licence fees collected from trawling companies in Ghana represented just 0.4% of the landed value, excluding illegal and unreported catches which are thought to be significant¹⁶⁵. In other countries the percentage is higher (albeit still considered low¹⁶⁶), equivalent to 7% of landed value in Sierra Leone and 10% in Liberia¹⁶⁷. The annual licence fee revenue in Ghana was less than US\$600,000 in 2017, while in Sierra Leone it was over US\$7 million with a similar number of trawlers¹⁶⁸. Cases of apparent under-reporting of vessel tonnage for trawlers operating in Ghana have also been identified, further impacting licence fees received, while unreported catches traded illegally through saiko result in additional revenue leakage from the system.

Ghana's licence fee remains lower than fees applied to foreign trawlers by other West African coastal states, even with the recent increase of an additional US\$100 per GRT from the previous fee of US\$35/GRT/annum. Still, industry have contested a proposed increase in the licence fee to US\$200/GRT/annum, in spite of the capacity of subsidised Chinese operations to pay higher fees and ensure a fairer return for Ghana in access arrangements for its fisheries.

Licence fees for an average 200 GRT trawler in Ghana have been in the region of US\$7,000 per year, increasing to around US\$27,000 annually per vessel in 2020. This compares to around US\$110,000 per annum for a foreign trawler of this size operating in Guinea.

This study found that one state-owned Chinese company with operations in Ghana, Shandong Zhonglu Oceanic Fisheries Co Ltd, reported an operating revenue of around US\$164.5 million in 2019, receiving subsidies for the development of its overseas fishing operations of around US\$3.0 million in that year and government fuel subsidies of around US\$5.7 million in 2016. At least seven Chinese fishing companies with trawl operations in Ghana have previously obtained ocean fishery enterprise qualifications from the Chinese government which confer eligibility to receive state subsidies.

The findings indicate that revenue generated by the industrial trawl sector could be maintained with a significantly reduced fleet. Through aligning licence fees with those applied by Guinea, for instance, Ghana could address fleet over-capacity and reduce trawler numbers by around 87% from 75 to 10 vessels yet double the revenue generated in 2018. Indeed, Ghana could go further and reduce trawler numbers by around 93% to five vessels and still remain revenue neutral at 2018 levels. These findings are significant when considering the severe impacts of illegal fishing by trawlers on small pelagic fish populations (**Box 2**) and current over-capacity in the sector (**Box 3**). Such a reduction would provide massive benefits to the country's struggling artisanal fishery, which supports jobs and food security for millions of Ghanaians.

In addition to low licensing revenues, Ghana is failing to apply deterrent financial penalties in accordance with minimum fines in its legislation (and its obligations under international law). This resulted in unrealised enforcement revenue of around US\$12 million in 2015 and US\$17 million in 2018. As a result of the lack of transparency around vessel ownership, prosecutions fail to target the beneficial owners – often a much larger entity with a controlling interest in the vessel – to ensure sanctions imposed are proportionate and have a deterrent effect. Cases are generally heard through opaque out-of-court settlement processes, with fines imposed at well below the statutory minimum and in some cases going unpaid (see **Appendix**)¹⁶⁹. There are doubts as to the legal basis for the fines imposed, as the 2002 Fisheries Act requires that the minimum fine (generally US\$1 million for most IUU fishing offences¹⁷⁰) is payable whether the case is settled within or out of court.

These findings are consistent with the conclusions of a review of implementation of the World Bank West Africa Regional Fisheries Program (WARFP) in Ghana¹⁷¹. The review found that Ghana spent US\$9.2 million on monitoring and surveillance during the project period, while collecting



Catches on-board an industrial trawl vessel.

less than US\$2 million in fines. By comparison, Liberia, which has similar sectoral settings, spent US\$2.5 million on monitoring and surveillance during its WARFP period while collecting around US\$6.5 million in fines.

A World Bank mission in 2017 identified issues with Ghana's enforcement and prosecution regime, including a large gap between the number of offences and the number of prosecutions, inconsistent prosecution amounts, provision of penalty waivers without clear reasons, licence renewal for offenders, irregular infraction reporting and follow-up, and a high proportion of uncollected fines. These issues continue to this day, as evidenced in the on-going case of the LU RONG YUAN YU 956 (see also **Appendix**).

Improving transparency around beneficial ownership would assist Ghana in implementing a regime of sanctions that targets the true beneficiaries and perpetrators of illegal fishing and ensures potential offenders are deterred. This would also assist China in regulating its distant water fleet, in line with its recently updated legal framework¹⁷², ensuring operators engaged in illegal fishing can be identified and have their subsidies withdrawn where appropriate. This study has identified several cases of alleged illegal fishing in Ghana linked to a Chinese state-owned corporation in receipt of government subsidies, Shandong Zhonglu Oceanic Fisheries Co Ltd, and further cases of alleged illegal fishing linked to a second Chinese state-owned company, Shandong Ocean Fishery Development Corporation.

In assessing potential lost (or unrealised) revenue, this research has not attempted to quantify the potentially significant revenue losses arising from the negative impacts of illegal fishing and over-fishing by trawlers on fish populations in Ghana and the livelihoods of artisanal fishers. Concerns have been expressed as to the sustainability of the bottom trawl fishery in West Africa and prevalence of illegal fishing by foreign fleets¹⁷³. These factors likely further diminish the overall economic benefits from legal fishing activities by foreign vessels in the region¹⁷⁴.

Small pelagic populations in Ghana have crashed over the past two decades, which has had implications for incomes of artisanal fishers¹⁷⁵ and revenue generation from the artisanal fishery. The contribution of fisheries towards Ghana's GDP has exhibited a consistent decline in recent years, from 1.6% in 2013 to 0.9% in 2019¹⁷⁶. This is consistent with a general trend of declining catches of the artisanal sector, from just over 200,000 metric tonnes in 2013, to 159,726 metric tonnes in 2018, and by -9.5% between 2017 and 2018 alone¹⁷⁷.

The decline in Ghana's small pelagic fishery has been driven, at least in part, by trawlers illegally targeting small pelagic fish, the majority juveniles, for the saiko trade¹⁷⁸. A study by EJF and Hen Mpoano estimated that around 100,000 tonnes of fish were sold illegally by trawlers through saiko in 2017, worth an estimated US\$50 million¹⁷⁹. While the activities of foreign trawlers have been driving declines in Ghana's coastal fisheries, the government of Ghana has supported the artisanal sector with massive fuel subsidies at a cost of around US\$44 million annually¹⁸⁰, a figure set to increase¹⁸¹. These figures indicate the potential scale of negative revenue impacts linked to the activities of industrial trawlers in Ghana, a comprehensive estimation of which is beyond the scope of this paper.

This study has identified several cases of alleged illegal fishing in Ghana linked to a Chinese state-owned corporation in receipt of government subsidies, Shandong Zhonglu Oceanic Fisheries Co Ltd, and further cases of alleged illegal fishing linked to a second Chinese state-owned company, Shandong Ocean Fishery Development Corporation.



Safeguarding the country's fisheries requires urgent intervention at high levels of government to introduce reforms that first and foremost improve transparency so it is clear who is benefiting from fishing access, what and how much they are fishing, how much they are paying and what these funds are used for.

Blocks of "saiko" fish landed illegally at Elmina fish market in Ghana's Central Region.

Conclusions

The coastal bottom trawl industry in West Africa is highly controversial. Bottom trawlers engage in indiscriminate and unselective fishing, taking high levels of by-catch and destroying benthic marine ecosystems. The vessels compete with small-scale fishers for catches and fishing grounds, while causing damage to artisanal fishing gear at sea and being frequently implicated in illegal fishing.

China is the leading player in West Africa's bottom trawl fishery, with hundreds of vessels operating from Mauritania to Liberia and throughout the Gulf of Guinea down to Angola. While many Chinese bottom trawlers operate as foreign vessels, generally under authorisations issued directly by coastal states to vessel owners (private agreements)¹⁸², in Ghana the vessels register to the local flag and access the country's waters on local licences.

The situation in Ghana arises from a law that attempts to preserve access to the country's fisheries for Ghanaians or, at the least, ensure that Ghanaians are the beneficiaries of local industrial fishing licences. Presumably, this law was enacted with a view to harnessing Ghana's fisheries resources for the benefit of its people and socio-economic development. Perversely, however, this has resulted in a highly opaque sector in which Chinese fishing companies hide their activities behind local entities, taking disproportionate benefits from Ghana's fisheries while evading scrutiny for illegal practices.

This paper has shown that Ghana is losing out on significant revenue in opaque and unfair fishing arrangements with China's distant water fleet. Licence fees are low compared with other countries in the region and insignificant when considering the capacity of subsidised, in some cases state-owned, Chinese fishing companies to pay a fair market value for access to the resource. Ghana is also failing to recoup enforcement revenue through the application of deterrent fines in line with minimum requirements in national law and the country's international fisheries obligations. Meanwhile, trawlers have engaged in widespread illegal fishing, failing to report huge catch volumes to the state and depleting small pelagic fish populations reserved for local communities.

The situation in Ghana is precarious. There is a grave risk that Ghana's fisheries will soon collapse, impacting the livelihoods of over 2.7 million Ghanaians. Safeguarding the country's fisheries requires urgent intervention at high levels of government to introduce reforms that first and foremost improve transparency so it is clear who is benefiting from fishing access, what and how much

they are fishing, how much they are paying and what these funds are used for. There is a need to enhance accountability through parliamentary oversight of industrial fishing licences, as required by the 1992 Constitution¹⁸³, and to effectively enforce the law governing the nationality of vessel ownership set out in the 2002 Fisheries Act.

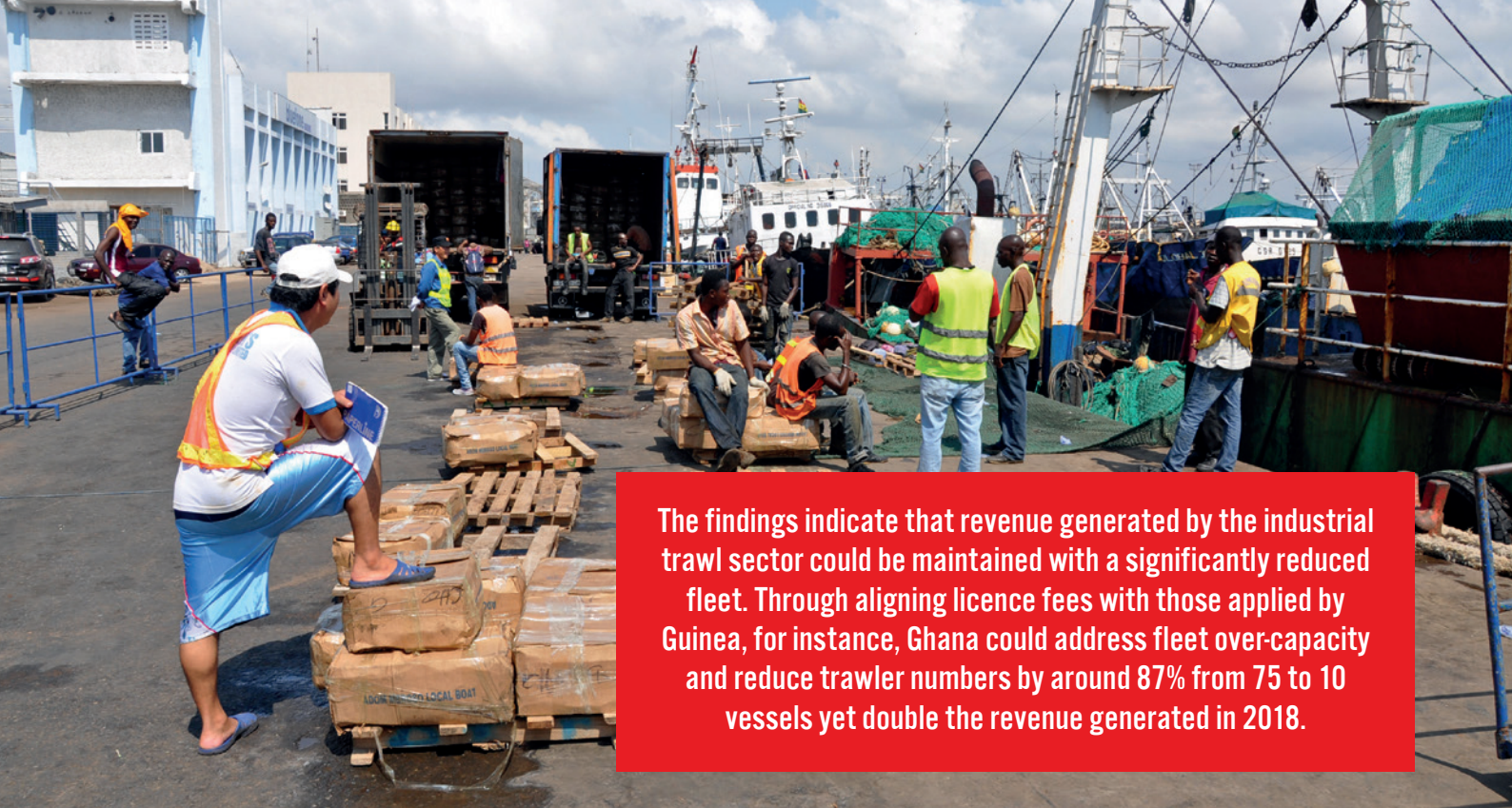
The governments of Ghana and China must also work collaboratively to ensure the perpetrators and beneficiaries of illegal fishing are identified and held to account, through implementation of an enforcement regime that imposes proportionate and dissuasive sanctions through transparent processes, and ensures that fishing licences and government subsidies are withdrawn for entities that engage in illegal practices. China's adoption of new distant water fishing regulations provides it with the legal basis and opportunity to scrutinise the operations of private and state-controlled fishing companies in Ghana and bring its "hidden" fleet into compliance with national and international law.

Overall, it is estimated conservatively that Ghana could be generating an additional US\$14.4-23.7 million annually from its trawl sector by way of fishing licence fees and enforcement revenue for fisheries-related infringements. The concealment of beneficial ownership behind local front companies may serve to justify the application of low licence fees and the imposition of financial penalties at well below the statutory minimum.

Recommendations

To the Government of Ghana:

1. Improve transparency in the industrial trawl sector in accordance with EJF's ten principles for global transparency in the fishing industry¹⁸⁴, including, as a matter of priority, making the following information publicly available^{185,186}:
 - a. A detailed and updated list of all fishing vessels licensed to fish under the Ghanaian flag and in the Ghanaian EEZ, as well as the record of external fishing authorisations and register of vessels, including information on beneficial ownership. These lists should be consistent with and feed into information made available through the FAO Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels¹⁸⁷.
 - b. Licence fees paid for access to fisheries resources, conditions of access and numbers of fishing days allocated to each licensed vessel.
 - c. Total catches of all fishing sub-sectors, including by-catch.
 - d. IUU fishing infringements and sanctions imposed/paid.
 - e. Licensing and enforcement revenue collected and how these funds are used.
 - f. Vessel-monitoring data through publication of unedited VMS data and/or introduction of mandatory AIS requirements for all industrial fishing vessels.
2. Review the licence fees payable for industrial trawl operations to ensure these are aligned with regional practice and represent a fair market value for access to Ghana's marine fisheries.
3. Immediately, reduce the number of fishing licences issued for industrial trawl vessels in line with best available scientific advice on the status of both small pelagic and demersal fish stocks.
4. Scrutinise, in detail, publishing the results, the ownership arrangements of all industrial trawl vessels currently operating in Ghana to ensure compliance with requirements regarding the nationality of beneficial owner(s) set out in the 2002 Fisheries Act, and that all aspects of their operations are carried out legally.
5. Require, as part of all applications for a fishing licence, fishing authorisation or entry to the Ghanaian fleet register, submission of records on the destination of profits from fishing activities, and information on beneficial ownership and foreign interests in vessels, to support implementation of nationality requirements in the 2002 Fisheries Act.
6. Reform the 2002 Fisheries Act to include a requirement for all applications for industrial fishing licences to be subject to parliamentary approval, as required under Article 268 of the 1992 Constitution¹⁸⁸.
7. As part of the ongoing reform of the fisheries law framework, strengthen legal provisions on beneficial ownership in the fishing industry through inclusion of minimum disclosure requirements and publication of details of beneficial ownership in a national register, in a manner consistent with Ghana's beneficial ownership roadmap produced under the Extractive Industries Transparency Initiative (EITI)¹⁸⁹ and the requirements under the 2019 Companies Act (Act 992). Provide for dissuasive sanctions for breach of nationality requirements set out in the legislation.
8. Ensure the effective, consistent and transparent enforcement of the law and imposition of sanctions of sufficient severity to prevent, deter and eliminate IUU fishing, including the suspension and withdrawal of licences, and the effective recovery of all outstanding fines.
9. Take urgent action to bring a permanent end to illegal saiko fishing, in line with the government's commitment in the 2020 Budget Statement and Economic Policy¹⁹⁰.
10. Investigate the discrepancies in vessel gross tonnage highlighted in this report, and ensure appropriate sanctions are imposed in the event infringements are detected.



The findings indicate that revenue generated by the industrial trawl sector could be maintained with a significantly reduced fleet. Through aligning licence fees with those applied by Guinea, for instance, Ghana could address fleet over-capacity and reduce trawler numbers by around 87% from 75 to 10 vessels yet double the revenue generated in 2018.

Trawl vessels unloading at Tema port, Ghana.

To the Government of China:

1. Improve transparency in relation to the Chinese distant water fishing fleet in accordance with EJF's ten principles for global transparency in the fishing industry¹⁹¹, including as a matter of priority:
 - a. Publishing and maintaining updated a detailed list of all distant water fishing vessels authorised/licensed to fish under the Chinese and local flags, including information on beneficial ownership.
 - b. Mandating IMO numbers for all vessels in the Chinese distant water fleet, where eligible under the IMO ship number identification scheme, and providing all information to the FAO Global Record and maintaining this information up to date.
2. Cooperate with the Ghanaian authorities to identify Chinese beneficial ownership of industrial trawl vessels and ensure that arrangements comply with all relevant fisheries, company and tax laws, including the provisions of China's distant water fishing regulation that entered into force on 1 April 2020¹⁹².
3. Carry out all necessary investigations into cases of illegal fishing by Chinese nationals in connection with industrial trawl vessels flying the flag of Ghana and impose deterrent sanctions in accordance with Chinese law and regulations, including with respect to vessel captains and company managers¹⁹³.
4. Investigate the discrepancies in vessel gross tonnage highlighted in this report, and ensure appropriate sanctions are imposed in the event infringements are identified.
5. Withdraw the distant water fishing certificates of any Chinese companies found to be supporting or engaging in illegal fishing by vessels under the Ghanaian flag¹⁹⁴.
6. Ensure that Chinese fishing companies for which the distant water fishing certificates have already been withdrawn are no longer operating vessels in West Africa under third country flags such as Ghana.
7. Ensure government support in the form of subsidies, loans and other funds are not available to companies that are found to have engaged in illegal fishing¹⁹⁵.
8. Update the national law framework, if necessary, to ensure that Chinese nationals engaged as beneficial owners of fishing vessels flying the flag of third countries can be prosecuted for IUU fishing infringements and deterrent sanctions imposed.

Appendix

Prosecution of fisheries infractions, 2018 and 2019 (Fisheries Commission, unpublished data)

Arrested vessel	Offence	Date of arrest	Date case heard and fined	Fine imposed (GH¢)	Fine imposed (US\$ equivalent) ¹	Fine status
LONG XIANG 606	Fishing in IEZ and reporting both China and Ghanaian flags	-	13/4/18	NIL		Granted pardon and signed a bond of good behaviour
LU RONG YUAN YU 907	Dumping of fish	18/9/17	13/4/18	6,000	1,225	Fully settled
LU RONG YUAN YU 908	Dumping of fish	18/4/17	13/4/18	6,000	1,225	Fully settled
LU RONG YUAN YU 959	Dumping of 22.3 tonnes of fish	18/4/17	20/7/18	6,000	1,225	Fully settled
LU RONG YUAN YU 920	Fishing in the IEZ	4-6 June	31/8/18	48,000	9,795	Paid GH¢6,000. Payment of balance unknown.
LU RONG YUAN YU 967	Fishing in the IEZ	4-6 June	31/8/18	48,000	9,795	Paid GH¢6,000. Payment of balance unknown.
MENG XIN 29	Juvenile fish found on board	27/8/18	1/10/18	500,000	102,040	Not paid. Status unknown.
LONG XIANG 601	Dumping of 10.87 tonnes of fish at sea	23/5/18	1/10/18	60,000	12,245	Fully settled
MENG XIN 2	Dumping of fish at sea	8/6/18	1/10/18	126,000	25,715	Not paid. Status unknown.
LU RONG YUAN YU 968	Dumping of fish at sea	18/9/17	1/10/18	6,000	1,225	Fully settled
LU RONG YUAN YU 906	Use of undersized mesh net and dumping of fish	1/4/18	1/10/18	12,000	2,450	Paid GH¢6,000. Payment of balance unknown.
LU RONG YUAN YU 907	Use of undersized mesh net	25/10/17	1/10/18	6,000	1,225	Fully settled
LU RONG YUAN YU 919	Use of undersized mesh net	8/18	1/10/18	6,000	1,225	Fully settled
LU RONG YUAN YU 969	Juvenile fish found on board	3/12/18	4/10/19	271,000	55,305	Fully settled
JIN HAI 605	Dumping of fish	21/10/18-2/11/18	4/10/19	30,000	6,120	Fully settled
JIN HAI 606	Dumping of fish		18/10/19	23,300	4,755	Fully settled
ADUM	Dumping of fish		22/11/19	180,000	36,735	Not paid. Status unknown.
ZHONG LU YU 1003	Dumping of fish		22/11/19	36,000	7,345	Fully settled
ZHONG LU YU 1004	Dumping of fish		22/11/19	24,000	4,890	Fully settled
LONG XIANG 608	Failure to make entry in official fishing logbook. Juvenile fish found on board. Obstruction of net	9/11/19	22/11/19	12,000	2,450	Fully settled
LONG XIANG 601	Dumping of fish and trans-shipment	15/10/18-10/11/18	13/12/19	572,000	116,735	Paid GH¢64,000. Payment of balance unknown. ²
LONG XIANG 601	Dumping of fish and trans-shipment	14/11/18-31/12/18	13/12/19	608,000	124,080	Paid GH¢64,000. Payment of balance unknown.
LONG XIANG 602	Dumping of fish and trans-shipment	27/9/18-8/11/18	13/12/19	602,000	122,855	Not paid. Status unknown.
LONG XIANG 602	Trans-shipment	11/11/18-31/12/18	13/12/19	560,000	114,285	Paid GH¢64,000. Payment of balance unknown.
LONG XIANG 606	Dumping of fish and trans-shipment	15/10/18-21/11/18	13/12/19	614,000	125,305	Paid GH¢64,000. Payment of balance unknown. ²
LONG XIANG 607	Trans-shipment	26/10/18-14/11/18	13/12/19	560,000	114,285	Paid GH¢48,000. Payment of balance unknown. ²
LONG XIANG 608	Dumping of fish and trans-shipment	19/9/18-29/10/18	13/12/19	656,000	133,880	Paid GH¢48,000. Payment of balance unknown. ²

Notes:

¹ Historical GHS:USD exchange rate as at 31 December 2018.

² Payments scheduled to be made from 13 December 2019 to 13 January 2020.

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