



## Survival of the Richest, not the Fittest: How attempts to improve governance impact African small-scale marine fisheries

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### ABSTRACT

The sustainable use of fisheries resources is a priority of the African Union in developing the Blue Economy (BE). Growing global demand for seafood has attracted diverse actors to African waters, including Distant Water Fishing Nations (DWFNs) fleets. Complex fisheries governance challenges, unsustainable rates of fishing and rising fisheries-related crimes have ensued. To reverse these impacts, some African states are deploying various fisheries governance mechanisms. Drawing on extensive expert experiences, the review of literature, fisheries databases, international and regional agency reports, NGO and government reports and case studies from West and East Africa, we demonstrate two critical findings. First, fisheries governance mechanisms in Africa act largely to constrain small-scale fisheries (SSF) while failing to contain the industrial fisheries sector, resulting in the marginalisation of the SSF. Secondly, despite a higher incidence of Illegal, Unreported and Unregulated (IUU) fishing in industrial fisheries than the SSF, fisheries governance mechanisms continue to advance the 'Survival of the Richest' – the industrial sector, to the detriment of the 'Fittest' – the SSF. The SSF supports millions of jobs and is better adapted to meet the continents' nutrition and socio-economic security. For the fisheries sector to contribute to the sustainable development of Africans, states must redirect governance towards regulating the industrial sector, emphasising equitable access for the SSF whilst prioritising ecological sustainability.

### 1. Introduction

With the increasing quest to tap into the Blue Economy (BE) as Africa's frontier for development, states are paying closer attention to the sustainable use of their coastal and marine resources [69]. However, this attention is not so far halting or reversing the continued decline of the continent's fishery resources [5,72]. The decline in fish stocks and catches is framed as resulting from weaknesses in fisheries governance, primarily "illegal, unreported and unregulated" (IUU) fishing, which poses a threat to a sustainable ocean economy [98]. At the first summit of heads of states of West and Central African countries in 2013, the former Chairperson of the African Union noted: "[Africa has lost [US] \$200 billion in five decades to illegal fishing... we cannot allow this to continue]" [90]. The declaration, "we cannot allow this to continue" recognized that IUU fishing threatens the continent's food and economic security, a view recently echoed in political economy analysis of Africa's

blue economy that identifies IUU fishing as the "greatest threat to the marine ecosystem" globally, and in the continents' waters ([25]: 333). These strong messages justify investments in urgent governance interventions to address the challenge of unsustainable fisheries practices.

The impact of IUU fishing, such as depleting fish stocks, results in the precarity of fishing-dependent livelihoods. Okafor-Yarwood [70], argues that this creates conditions where small-scale fishers are susceptible to engaging in activities that directly or indirectly undermine national security, such as piracy/armed robbery at sea, and oil pipeline vandalism, among others. This justifies how African governments and their international development partners respond to IUU fishing with a set of measures that target small-scale fishers rather than addressing the root political, economic, and social causes. Some of these measures include anti-illegal fishing patrols by navies, closed seasons, Marine Protected Areas (MPAs), and reducing inshore fishing zones [23, 67,84,94]. In extreme cases, countries apply "hard power" through the

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enhancement of the capabilities of navies and coastguards resulting in the marginalization and increased vulnerability of Small-Scale fisheries (SSF). In effect, states must recognize the impact of these measures to SSF as ignoring such low level social and economic issues may manifest as high-level political issues that relate to peace and economic stability critical to a nation's survival ([68]: 67–85).

Against the backdrop of developing a sustainable BE sector, there are concerns that African countries, like those elsewhere, Song et al. [83] may have implicit and/or explicit tendencies to overlook the harmful impacts of industrial fishing, especially those from Distant Water Fishing Nations (DWFN) [68]. We aim to uncover the paradox of how Africa's fisheries governance and the pursuit of economic growth through the expansion of the fisheries sectors may compromise the critical SSF sector it seeks to advance. In particular, how the low visibility relating to under-representation in decision making of SSF might influence fisheries governance mechanisms that may inadvertently contribute to their alienation while accommodating DWFNs and international agreements that may, in fact, be a greater threat to fisheries resource health, human and national security [11,72].

Our paper sets out to ask three critical questions. First, what are the relative impacts of fisheries governance mechanisms on SSF and industrial fisheries? Secondly, does the investment in African fisheries advance the 'Survival of the Richest and not the Fittest'? Thirdly, can the BE and its emphasis on the growth of the fisheries sector – even if well managed – result in social equity, improved nutrition and health, and reduced poverty? The contribution of this paper in addressing these questions is threefold: First, we provide an empirically supported evaluation of the implications of fisheries governance measures on SSF and industrial fisheries, using four case studies: Ghana, Liberia, Madagascar, and Somalia (Fig. 1). Secondly, we provide further analysis that supports the notion of the 'Survival of the Richest' – industrial fisheries, especially those from DWFNs, at the expense of the 'Fittest' – the adaptable SSF that are best positioned to supply African development needs. Thirdly, we make recommendations for advancing the development of an inclusive fisheries sector that priorities economic growth alongside social wellbeing and ecological sustainability. Essentially, we enhance the body of knowledge on fisheries governance by providing new insights, demonstrating that the current mechanisms tend to favour the elite at the expense of critical SSF.

## 2. Methodology

To discuss the implications of fisheries governance on Africa's SSF, we highlight the significance of this sector in the socio-cultural, economic, and political context and provide examples on how the complexity of governance interventions deter the ability of SSF to fulfil aspirations of Sustainable BE. The paper drew on on-the-ground experiences, knowledge, and discussions between co-authors who argue that fisheries governance initiatives have failed to safeguard the interests of the SSF sector, which may therefore undermine the livelihoods of communities dependent on it and sustainable development of the African people. To argue this position, we examined theoretical and practical perspectives on how these implications manifest within the SSF and industrial sector. We reviewed published literature, governmental, intergovernmental, and non-governmental organization reports alongside fisheries databases through triangulation. This involved the qualitative analysis of documents which were then checked against quantitative datasets extracted from fisheries and trade databases to analyse the respective contributions of artisanal and industrial fisheries to overall catches in case study countries (See: Punch [100]). The data extracted from the databases highlight the relative importance of SSF and industrial fisheries in accounting for national fish catches.

The data extraction method is summarized as follows:

- Extraction of fisheries production data for Ghana, Liberia, Madagascar, and Somalia, from the FAO Catch Statistics and the Sea Around Us databases respectively between 2000 and 2014.<sup>1</sup>
- Trade data extracted from COMTRADE, for Ghana, Liberia, Madagascar and Somalia, and their major trade partners to explore their levels of trade: we do not assume that industrial fisheries are the only ones involved in trade, but this step allows for understanding the extent of fisheries value which could justify government's keenness on generating revenue. Only Ghana and Madagascar report exports in seafood and fish products, and hence we used "all" countries as reporters of imports from Liberia and Somalia as a point of origin to extract exports from the latter two countries.<sup>2</sup>
- Full text of Fisheries Acts and national policy documents extracted from the FAO lex database.<sup>3</sup>

We define fisheries governance as the sum of the legal, social, economic, and political arrangements used to manage fisheries (Grafton et al. [101]).

Ghana, Liberia, Madagascar, and Somalia were selected as case studies because they have significant small-scale and distant water fisheries and are perceived to be representative of fisheries governance mechanisms across the African continent which disproportionately favours one sector over the other. Notably, there are other examples across the continent which exhibit similar characteristics (see for example: [56, 69]). We do not aim to over-generalize these impacts as a "one-size-fits-all" narrative. Rather we seek to explore the points of intersections between the development of SSF and the existing governance frameworks to inform the efforts in sustainably developing Africa's fisheries sector.

The next section provides an overview of fisheries' health and their significance in Africa. A review of four case studies follows, analysing the extent of fisheries governance measures and their impacts on the fisheries sectors. In reference to our definition of fisheries governance, we explore the case of Ghana as a prime example of legal and political frameworks, in the form of securitization to manage their fisheries. We also explore Liberia, Madagascar and Somalia as salient case studies on how governments have used political, social, and economic arrangements in advancing their BE agenda and the development of the fisheries sector.

The discussion synthesizes the case-study material to examine the contention that fisheries governance mechanisms foster 'Survival of the Richest and not the Fittest' where interventions are disproportionately misdirected towards restricting the SSF that represent a route to food and national security, while failing to address DWFNs activities that do threaten national security. The paper concludes with recommendations for improving fisheries governance through implementing social, economic, legal and political solutions which empower rather than disenfranchise the SSF – an approach that is espoused in the FAO voluntary guidelines in support of small-scale fisheries, to which many African states are signatories [35].

## 3. Fisheries' health, and their significance

The fisheries sector provides a vital source of animal protein consumed by more than 200 million people in the African continent ([7]: 17). The sector is also a critical lifeline for African economies with a total value added of US\$24 billion – mostly from capture fisheries rather than aquaculture, from which the SSF sector makes a greater contribution than the industrial sector ([43]: 41). With more than six million Africans earning their livelihoods from the fisheries sector at sea, and an additional 5.3 million on land especially in remote rural areas,

<sup>1</sup> <http://www.seaaroundus.org/data/#/eez>.

<sup>2</sup> <https://comtrade.un.org/>.

<sup>3</sup> <http://www.fao.org/legal/databases/faolex/en/>.

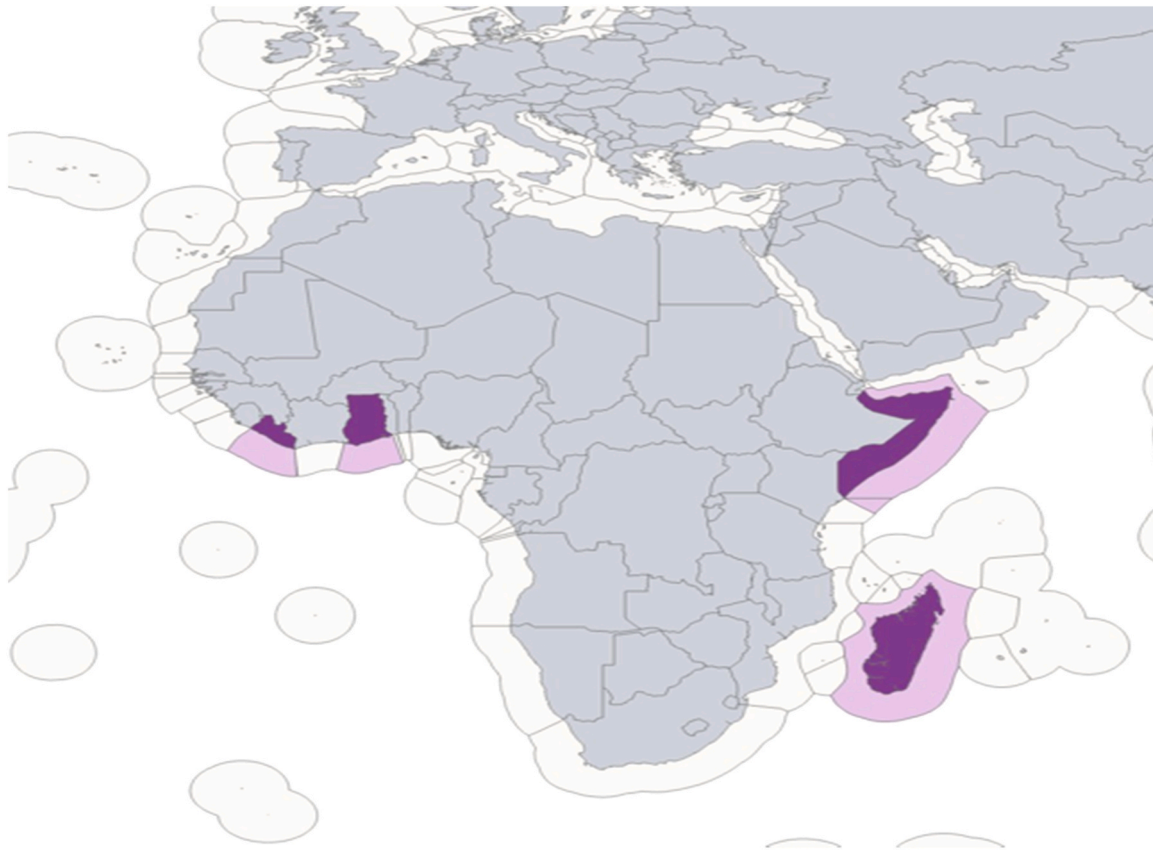


Fig. 1. The EEZs of Africa, with the case study countries highlighted.

the SSF sector plays a vital role in strengthening the income, economic and food security of Africans ([43]: 4). The SSF sector also contributes to improving gender equity through employment. Though women's roles in direct fishing input and decision-making is less pronounced, women significantly contribute to Africa's fisheries production. According to Harper et al. ([47]: 8), of the 2.9 million tonnes of fish caught globally by women each year, over 260,000 tonnes of these are caught by African women. Women also finance the fishing activities of men, especially in West Africa; as such, they are vital to the sustenance of the SSF sector in Africa [92]. Women also dominate the post-harvest and marketing sub-sector, accounting for 58% of the trade and processing of SSF catch, whilst owning only 3.6% of the fishing boats ([89]:10). In West Africa alone, as much as 80% of fish trade is conducted by women ([44]:2). Therefore, the sector is critical to achieving social equity, in line with goals 5 (gender equality) and 10 (reduced inequality) of the Sustainable Development Goals (SDGs) by 2030, and the aspiration of sustainable development of Africans as enshrined in the Agenda 2063 of the African Union [69].

The SSF sector contributes to coastal states and the livelihood of residents through a more bottom-up diffuse pathway that allows citizens to benefit more directly from marine fisheries resources, rather than relying on a 'trickle down' of resource rents such as those from fishing licenses and agreements from the industrial sector [18]. The strong bottom-up pathways and resilience of SSF makes them the "Fittest" to contribute to the aforementioned development goals, yet all too often they are marginalized and de-prioritised.

Despite the potential of Africa's fisheries as a source of socio-economic wellbeing for its local communities, its fish stocks are harvested by industrial vessels linked to DWFNs due to lack of domestic and regional capacity for large-scale exploitation [17]. For instance, a quarter of all marine catches around Africa are attributed to DWFNs which amounts to US\$0.4 billion generated by the continent from

fishing agreements with those nations ([43]: iv). The operations of the nominally domestic industrial fleets are also mostly overseen by international fishing companies or as part of joint ventures with local companies, and therefore linked to DWFNs [13]. In West Africa, for example, the industrial fisheries sector is dominated by foreign fishing fleets, some of which operate under joint ventures and/or flags of convenience, with most of their catches often aimed for the international market [57]. It follows that the value accrued to African economies from the industrial sector, especially through agreements with DWFNs, is much less than what the continent could earn if the fisheries were caught by national fleets, for many reasons, including the low-value paid for agreements and economic loss resulting from IUU fishing activities by those vessels [13,72]. Nonetheless, the industrial sector, especially fleets from DWFNs, contributes to coastal states' economies through license fees, taxation on access, and fisheries agreements, therefore, are useful for government expenditure. Adequately utilised, the sector's revenue can contribute towards macro-economic growth and improve the livelihoods of coastal residents through poverty reduction [3,19].

The industrial sector, especially agreements with DWFNs, contribute to the coastal states' economies, which makes them, "The Richest", in the context of the FDI generated from fisheries agreements. However, much of what would have been considered as beneficial in terms of revenue is often taken out of the continent through the export-oriented approach of the sector [19], which poses two major challenges. First, catches taken out of the continent may threaten food and economic security by making stocks less available to inshore fishers and nutritious food less available to domestic consumers. Secondly, if not well managed, which often is the case, foreign earnings generated from exports, licence fees, and fishing agreements might be misdirected. In addition, many factors, including but not limited to, climate change, marine pollution, and most critically fisheries crime, in particular, IUU fishing, are attributable to industrial fisheries, especially those linked to

DWFNs [16,66,71,98]. An example of the extent of IUU fishing by industrial fleets, is that between 2012 and 2016 industrial fleets operating in Africa spent 3–6% of their total 4.2 million industrial fishing hours in inshore waters reserved for SSF – amounting to 166 million kW hours out of 4.9 billion kW hours in total within the same period ([13]: 385). In West Africa, IUU fishing amounts to 40–65% of the legally reported catch, ([68]: 2) with 16% of fish exports from the region linked to transshipment at sea involving industrial and distant water vessels and ‘motherships’ ([87]: 1). IUU fishing and the associated transshipments threaten food and economic security, including wide-reaching implications on the continent: the avoidance of port visits may facilitate illicit trade in seafood, and drugs trafficking [14,87,98].

Contrastingly, the SSF’s contributions, which are at the core of improving the livelihoods and food security of millions of African people, are threatened by the prevalence of ocean-grabbing disguised as the development of the BE. Ocean grabbing is defined herein as the appropriation of marine spaces, which robs fishing communities and coastal residents of their source of livelihood, depriving them access and use of those spaces ([36,79]: 6). The out-competition of the SSF by industrial fishers, especially those from DWFNs, reflects this phenomenon’s impact. In the Gambia, Senegal and Mauritania, the operations of fishmeal industries linked to Chinese, Turkish and EU investors exacerbate the depletion of fish stocks, with the fishmeal and oil destined for foreign markets [45,86]. Further, ocean grabs have resulted in small-scale fishers losing access to traditional fishing grounds as coastal states explore offshore hydrocarbon, expand port infrastructures, marine tourism, and mining due to increasing interest by African states to harness BE potentials [68]. In Ghana, for example, the exploitation of offshore hydrocarbons has resulted in the establishment of Safety and Security Zones (SSZs), and within them the construction of oil rigs, gas pipelines, floating production storage, alongside the presence of off-loading (FPSO) vessels, and supply ships, in areas that local fishers previously either fished, or used as landing sites [1]. In Cameroon, the Kribi Port project led to the displacement of local fishers, and the loss of traditional fishing grounds. The narrative is similar in Kenya, where the Lamu port project led to marine habitat destruction, threatening local fishers’ livelihoods. In Namibia, the prospect of deep-sea phosphate mining would undermine the productivity of fishing grounds, with profound implications for local livelihoods and environmental sustainability [69].

SSFs also bear the brunt of negative impacts when there are unresolved maritime boundary disputes. Fisherfolk must cease their fishing activities until such disputes are resolved and lose access to fishing grounds if the resolution favours one party. Various maritime boundary disputes across the continent have either resulted in disruption of fishing activities (see: Guinea Bissau and Senegal’s disputes) [65], and fishers’ displacement and the loss of traditional fishing grounds (see: Nigeria and Cameroon maritime boundary dispute over the Bakassi peninsula) [51,54]. In the case of the dispute between Kenya and Somalia over their maritime boundary, there is a potential risk of loss of access to fishing in the Kiunga area in Kenya, one of Lamu County’s richest fishing grounds, unless the two countries reach an equitable solution [54].

To build resilience to their vulnerabilities, in the face of the multifaceted negative impacts of the marine sector’s development, some small-scale fishers turn to IUU fishing, even when it comes at a cost to their personal security. Increased competition for resources has exacerbated tensions and fuelled insecurity as coastal communities compete for increasingly depleted fish stocks. In Senegal, local fishers are travelling to neighbouring Mauritania, in breach of immigration regulations, to make up for their dwindling catch [10]. Unfortunately, this has resulted in three life-threatening shootings and one fatality in 2017 and 2018, respectively, during a clash with Mauritanian coast guard officials ([68]: 24). There are also reports of clashes between Nigerian fishers and Cameroonian gendarmerie, including extortion and in extreme cases, the death of Nigerians who had sought to fish in the once-disputed Bakassi Peninsula, ceded to Cameroon in 2002 [66,67].

To address the overarching threats to fisheries sustainability on the continent, African governments have applied different mechanisms whilst also advancing their respective BE ambitions. The next section examines securitisation as one such example of a fisheries governance mechanism, providing an extended analysis of how it manifests on the continent, using Ghana as an example.

#### 4. Ghana: securitization as a fisheries governance mechanism

We define securitization as a process whereby an actor (the government) institutes measures to enhance their security when they perceive that their national security is existentially threatened. There are various examples of securitization, as a form of governance of natural resources, and its often negative consequences in Africa [25,50,56,70,76,102].

In Ghana, Johnson [50] argues that the introduction of policies that selectively criminalize the activities of informal producers may undermine livelihoods, including destabilizing other non-extractive sectors of the rural economy. In West and Central Africa, efforts to combat piracy and armed robbery at sea have left fisherfolk victimised, sometimes being detained through having been mistaken for criminals by navies and other seafarers while going about their fishing activities [48,68]. Despite these concerns about the equity dimensions of a securitized response to perceived threats to a successful ocean’s economy in Africa, studies which systematically, empirically, and comprehensively provide case studies to examine the implications of ocean securitization on the continent’s largest informal coastal sector – SSF – are limited.

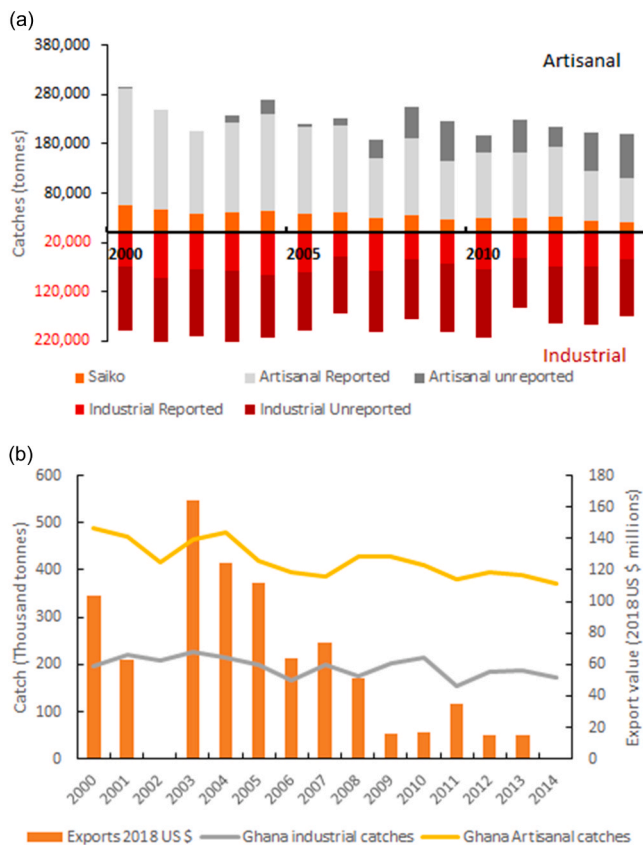
In July 2018, the Ministry of Fisheries and Aquaculture Development (MOFAD) announced a closed fishing season for the artisanal and inshore fisheries from August 5 to September 4, 2018. This decision is aimed at protecting the spawning brood stock of small pelagic species. The decision was later delayed by one year due to public outcry, citing lack of consultation [58]. The Ghanaian example highlights the impulsive nature of the decision to extend the closed season to artisanal and inshore fisheries and elicits the willingness to sacrifice the wellbeing of the SSF who are already vulnerable to the impact of depleting fisheries.

Ghana represents how extraordinary legal, political, and social measures have been taken by the government to address the threats to fisheries sustainability whilst simultaneously advancing their BE agenda at the expense of the SSF. Specifically, the implementation of a closed season for the SSF in 2019 by the President of Ghana shows the disposition to restrict the access of one party (SSF) while maintaining the status quo with another party (the industrial sector). Specifically, in 2019, the government restricted the activities of small-scale fishers by extending a closed season which was introduced for the industrial fisheries sector in 2015 as part of the implementation of the Fisheries Management Plan of Ghana 2015–2019 [37].

By law Ghana’s industrial fishing fleets are owned by Ghanaian nationals. Although the law prohibits the ownership of fishing vessels by non-nationals, the paradox about their operation is that the Chinese own about 90% of the fleets through joint venture schemes ([29]:8). Many of these fleets have been implicated for engaging in ‘*Saiko*’ which exacerbates the depletion of fish stocks resulting in an economic loss of about US\$50 million per annum ([29]:28). *Saiko* is the illegal transshipment of fish at sea whereby industrial trawlers stay at sea for longer periods conducting licensed fishing but catch unauthorized fish from prohibited areas which they in turn sell as by-catch to canoes operated mainly by small scale fishers ([29]: 4). The decline of fishery resources in Ghana and the gains made by *Saiko* canoe owners has driven opportunistic behaviour among some artisanal fishers and has attracted many outsiders not formerly active in national fisheries operations ([29]:18).

As shown in Fig. 2a, fisheries catch in Ghana are dominated by the SSF sector. However, the industrial sector accounts for a high volume of catches, most of which are initially unreported, due to the practice of *Saiko*. As these catches are subsequently landed as SSF, it is highly likely that they are recorded at that point, and inflate SSF catches, although in





**Fig. 2.** a.) Ghanaian reported and unreported catches by sector, 2000–2014, extracted from the FAO global landings database and the Sea Around Us database. Saiko catches are estimated as a percentage of total landed artisanal catches using Sea Around Us data compared to the latest estimate extracted from EJF and Hen Mpoano [29]. 2b.) Value of exports in seafood extracted from the United Nations COMTRADE database compared to artisanal and industrial catches (cumulated), 2000–2014.

reality, they are caught by the industrial sector. Despite the steady fluctuations in catches for industrial fleets and artisanal fishers across the time period, exports showed a downward trend (Fig. 2b). The decline in exports espouses the economic impact of unsustainable fishing practices in Ghana as catches by industrial vessels linked to DWFNs does not benefit the country directly.

In the ideal situation, the Ghanaian government has the capability to institute legal, social, and political measures to address the impact of industrial fishing fleets, and particularly *Saiko*. However, the mechanisms implemented, in this case, the extension of the closed season on the SSF have exacerbated their marginalisation. The small-scale fishers widely observed the closed season which the government perceived as robust evidence of success in addressing an issue of national and economic security. However, according to a report by CEMLAWS Africa [23], 99% of the people they surveyed for their report did not agree with the closed season although they were willing to observe it due to the implications of going against the state. The report further notes that small-scale fishers believe that the most viable solution to depleting fisheries would be to control the activities of the industrial fleets operating in the country. In another report prepared for the USAID, it was noted that household hunger went up and dietary diversity went down during the 2019 SSF closed season due to the decline in household income as fishing ceased [30]. Evidently, the closed season resulted in the loss of income; hence the call for the provision of an alternative source of livelihood should the government seek to introduce such measures in the future [95].

Since 2020, the SSF has been adversely affected by the impact of the

Novel Corona Virus (COVID-19). The pandemic has negatively affected the SSF by restricting their movements to neighbouring West African countries to fish. Crew numbers were reduced in canoes to decrease overcrowding. This led to a decrease in labour force, catch and income which continues to affect the sales and earnings of those in the value chain many of whom are women [74]. With no social protection and while they are still trying to recover from the impact COVID-19, the government implemented another closed season, effective from the 1st to 31st of July 2021. The fisherfolk decried the lack of consultation before the decision was taken [38]. In announcing the closed season for the SSF, the government stated that defaulters would face the full force of the law. The government's ability to enforce the closed season is not in doubt due to the proximity and visibility of SSF to maritime enforcement personnel. However, the same cannot be said about the enforcement of the two-month closure on the industrial sector effective from 1st July to 31st August 2021 [6]. The inability of the fisheries agencies to monitor the activities of trawlers operating in their waters makes it difficult to ascertain their ability to enforce the closed season on the industrial sector.

Weak fisheries governance mechanisms to address the impact of industrial fleets and especially of *Saiko* are evidenced by the European Commission's (EC) move to issue a yellow card to Ghana in 2013. As part of the EU's effort to combat IUU fishing, a yellow card is given to a third country for not having adequate measures to tackle IUU fishing. This card was withdrawn later in 2015 because Ghana was perceived to have made some progress [72]. However, the EU reissued a yellow card on the 2nd of June 2021 citing the prevalence of *Saiko* and deficiencies in the monitoring, control, and surveillance of the industrial fleets (See: EC [27]).

The elitist view of the industrial sector in Ghana is demonstrated by the approaches deployed by the government to further its BE agenda through emphasis on the development of this sector. Despite a 2015 national fisheries assessment finding that the industrial sector was operating beyond a sustainable capacity, as of 2019, Ghana registered 76 trawlers compared to the required number of 48, ignoring a moratorium on the licensing of new trawlers ([63]:38; [29]:22). In June 2020, the government tried to register three new vessels [93]. The implicit or explicit bias which favours the industrial sector is further corroborated by the fines for illegal fishing which are often below the minimum stipulated by the legislation and do not meet Ghana's responsibilities under international law, resulting in unrealised enforcement revenue of around US\$12 million in 2015 and US\$17 million in 2018 ([28]:36). Ghana thus represents the misapplication of a fisheries governance mechanism through securitisation which targets the most vulnerable, least able to resist, easiest to police, and with limited conflict of interest with the elites, who have interests or investments in the industrial fleets, especially those from DWFNs or the revenues it generates.

## 5. Liberia, Madagascar, and Somalia: reduction of inshore fishing zones and investment in industrial fisheries

The SSF in Africa are viewed in two contradictory ways in fisheries governance mechanisms. First, their role and contributions are usually overlooked in the decision-making process despite their significance to the societies and national economies [82,83]. Specifically, small scale fishers are often perceived as inherently responsible for their afflictions; presented as reckless custodians of fishery resources and accountable for the resultant overexploitation [1]. In extreme cases, the neo-Malthusian logic which links overpopulation in fishing communities to over-exploitation is used to justify the discriminatory governance measures [8]. This type of negative framing misleads stakeholders into implementing strict policies that ultimately result in the dispossession of small-scale fishers of their fishing grounds rather than implementing effective restrictions on industrial fishing especially those from DWFNs. Secondly, the proximity of SSF to the shore and their visibility to policymakers and enforcement personnel exposes them as an easy target for

fisheries governance measures which seek to restrict their activities.

The ability of SSF to operate in traditionally fished areas means that they are under the gaze of the policymakers and enforcement personnel who impose authoritarian mechanisms and discourses that frame their activities as a threat to not only fisheries, but safety and security at sea. This perpetuates a cycle of criminalization and marginalization of the poor (See: [48,56,68]). Measures such as reducing inshore fishing areas for the SSF, and the expansion of the industrial fisheries sector led to a further decline of legally allocated operational ranges and an increase in threatened livelihoods. Policy actors have often emphasised the importance of the industrial fisheries, especially DWFNs' in contributing to the national economy. As such, there is often a laxity to enforce such regulations even when they exist to ensure sustainable development of the fisheries sector.

In the ensuing sub-sections, we provide examples from Liberia, Madagascar, and Somalia to demonstrate how large-scale fisheries development constitutes social, economic, and political components of fisheries governance in Africa which advances economic interest whilst undermining the socio-cultural wellbeing and fisheries sustainability.

### 5.1. Liberia

Liberia's long periods of civil war, the Ebola crisis and the Covid-19 pandemic provide a salient case study on the resilience of local communities in the face of crises, abject poverty, and increased unemployment [15,73]. The effects of civil war in the country resulted in the collapse and displacement of SSF while the activities of industrial fishing by DWFNs increased through opportunistic mechanisms [15].

The Liberian example highlights the discriminatory nature of the political, social, and economic elements of fisheries governance mechanisms. On May 7, 2017, the former President Johnson Sirleaf issued an Executive Order 84 to reduce the Inshore Exclusive Zone (IEZ) noting that, "[T]he Inshore Exclusive Zone (IEZ) as established by the Fisheries Regulations of 2010 is reduced from 6 to 3 nautical miles to ensure that industrial and semi-industrial fishing can restart and again become viable" [31]. Although not implemented, the very fact of the decision itself to reduce the IEZ, shows the willingness of political actors to consider possibly very detrimental action in the fisheries sector, and the disregard for socio-cultural and economic contributions of SSF and the pursuit of potential revenue from the industrial sector.

Most of the fisheries in Liberia are exploited by DWFNs which makes the decision to reduce access to SSF questionable in terms of the potential benefits to Liberians. As shown in Fig. 3a), the total fisheries catch in Liberia is dominated by the industrial sector whose catch is overwhelmingly unreported. Indeed, between 85% and 91% of the industrial catches in Liberia are never reported to the Liberian authorities (calculated from Belhabib et al. [15]). The industrial sector, including fleets from DWFNs accounts for 60% of the pelagic catches in the country, of which an estimated 50% are *Sardinella*, with tuna, billfish, and bonito each accounting for 10% of their catch, barracuda (5%), soles (5%) croaker (5%) and sharks and rays (4.5%) – [72,78]. In contrast, the SSF sector, whose catches represent less than 12% of the total commercial catches within Liberian waters does better at reporting with less than 40% of its catches unreported (calculated from Belhabib et al. [12]). This somewhat belies the myth that 'unreported' catches are primarily a problem in the SSF. Much of the country's fisheries production is already destined for the export market (Fig. 3b). For example, the value of exports in 2014 reached US\$1 million, one third of which was directed towards EU countries, 17% to China, 10% to Japan, 8% to the Ivory Coast, with 7% to Ghana, and the remaining spread across numerous countries.<sup>4</sup>

<sup>4</sup> Value of exports in seafood extracted from the United Nations COMTRADE database compared to artisanal and industrial catches (cumulated) – <https://comtrade.un.org/>.

The SSF, even with the smaller catches, employs an estimated 10,800 people compared to the 500 people employed in the industrial sector, mostly as deckhands on vessels or as labourers in fish cold storage units and depots ([52,53]:2). Therefore, the SSF plays a vital role in the fisheries' production and food security of Liberians, including increasing coastal residents' resilience to shocks such as armed conflicts and epidemic outbreaks that may disrupt the more formal food system [32, 53].

With ample evidence on overexploitation of fisheries in Liberia especially through IUU fishing by the industrial sector (Fig. 3a) and increasing global call for sustainable fisheries, the executive order by the Liberian president to reduce the IEZ demonstrates the government's prioritisation on generating revenue rather than improving marine ecosystem health. The Executive Order was generally perceived as a bad policy idea and its viability questioned by Liberian fishers and Non-Governmental Organisations (NGOs) – [22,60]. Following this general outcry, the executive order was not implemented. However, the government proceeded with its intent of giving access of the inshore areas to the semi-industrial and industrial fishers.

The election of George Weah as president in January 2019 catalysed the government of Liberia and Senegal to sign the "Protocol on the Implementation of Fisheries and Aquaculture Cooperation". The protocol would allow 300 fishing pirogues from Senegal – 100 artisanal pirogues and 200 large pirogues – to fish in inshore waters, up to 6 NMs (See: Gorez [41,42]). The protocol would also allow five industrial shrimping vessels, four coastal or cephalopod demersal ships and four demersal trawlers from Senegal to access Liberia's inshore waters from 4NMs and beyond. However, following another public outcry and concerns about its impact on local livelihoods, a Legislative Committee was set up to review the agreement's terms but did not result in the

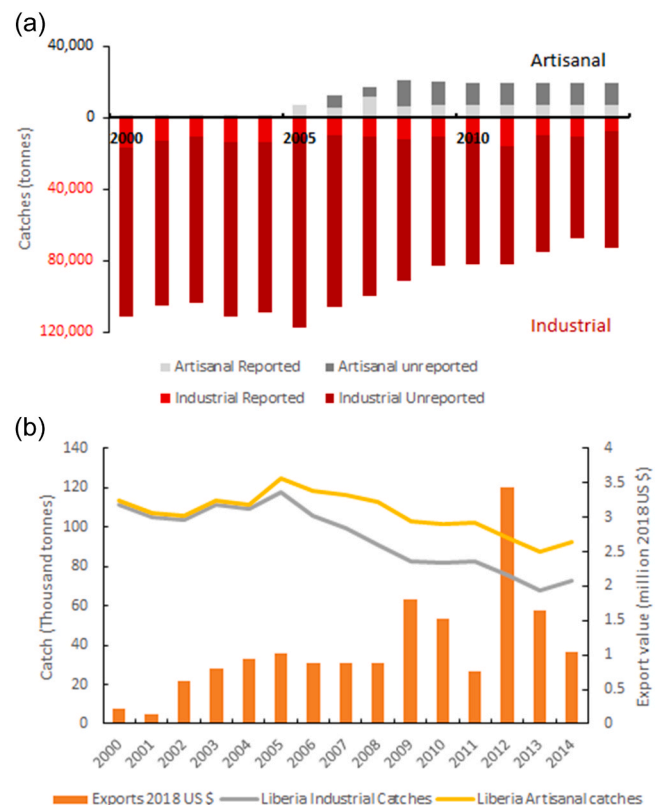


Fig. 3. a.) Liberian reported and unreported catches by sector, 2000–2014, extracted from the FAO global landings database and the Sea Around Us database, and b.) Value of exports in seafood extracted from the United Nations COMTRADE database compared to artisanal and industrial catches (cumulated), 2000–2014.

cancellation of the agreement. Instead, the Committee recommended including some conditions that must be met by the Senegalese vessels [59]. One such condition is ensuring that the Senegalese vessels comply with the registration preconditions for fishing in Liberia. Since the outcome of the review committee did not result in the denunciation of the protocol, we suppose that the protocol is still in place, and will most likely be implemented once those conditions are met. This is demonstrated by the October 2021 report that the government of Liberia have allowed Senegalese trawlers of Spanish origin to fish for deepwater shrimps through this protocol on an experimental basis [103].

The selective nature of the implementation of the political, social, and economic aspects of fisheries governance measures is more pronounced in the government’s one-directional outlook on the activities of the industrial sector. In addition to the fisheries protocol with Senegal, the Liberian government initiated the licensing of six new large-scale industrial vessels from China in June 2020, but the process was halted for technical reasons in August 2020 [80]. The vessels have larger fishing capacities than those that would usually operate in Liberia’s waters [80]. This indicates the government’s willingness to compromise on licensing and vessel size limits despite an outcry on the need for fisheries sustainability.

Relatedly, Liberia had a five-year Sustainable Fisheries Partnership Agreement (SFPA) with the EU for tuna species that expired in December 2020. However, the European Commission (EC) has authorized the opening of negotiations to renew the SFPA. When renewed, the SFPA might be extended to migratory species which would burden the country’s already overexploited fisheries. The possibility of extending the SFPA to migratory species is based on Liberia’s proposal during an EU-Liberia Joint Committee meeting in 2016 to expand the agreement to include other types of fisheries such as shrimps in future protocols [41]. Nevertheless, the new SFPA negotiation will be concluded only when the yellow card issued to Liberia in 2017 by the EC is reversed [26]. The yellow card was issued under Council Regulation No 1005/2008 establishing a community system to prevent, deter and eliminate IUU fishing. The reason cited by the EC was that despite being the second biggest shipping registry in the world, Liberia’s national fisheries authority does not have the capacity or means to control the vessels they flag [67].

Three issues of fisheries governance stand out in the Liberian example. First, the government’s failure to address the effects of DWFNs through its political actions in the face of depleting fisheries. Secondly, the government’s laxity extends the socio-economic elements of fisheries governance mechanisms to its people – traditional fisheries – despite the short-term benefits accrued from the industrial sector compared to the SSF. Thirdly, the elitist influence on political, socio and economic elements of fisheries governance, which is apparent in how governments actions marginalise the visible – SSF – while elevating the unsustainable actions of the elites – the industrial sector.

### 5.2. Madagascar

The Republic of Madagascar case study further demonstrates the application of political and socio-economic elements of fisheries governance which burdens the SSF for the benefit of the industrial sector, especially those from DWFNs. Madagascar was the first Indian Ocean country to sign a fishing agreement in 1986 with the EU and has subsequently signed additional agreements [62,77]. Yet to date, it remains one of the poorest countries in the world. From a political angle, the government’s focus on fisheries agreements, notwithstanding the obvious lack of economic incentives, is exemplified by the concerns that despite the increase in EU quotas by 30% since 1986, the fees paid to Madagascar have decreased by 20%, the revenue generated from these agreements has declined by 90% ([46]:161).

The fisheries catch in Madagascar mainly comprise the SSF and industrial fishing sectors. The SSF constituted the largest component of the total domestic catch of about 72% in the 2000s ([62]:222). The SSF

sector employs an estimated 87% of the adult population and provide food protein to 99% of the households ([9]:175). As highlighted in Fig. 4a), the SSF is subject to less under-reporting than the industrial fishing sector. The latter misreports nearly 50% of its catch on average and is responsible for over 70,000 tonnes of illegal catches every year ([17]:83) – Fig. 4b. Exports reached over US\$150 million in 2014, half of which were destined to EU countries, notably France (28% of export value), Italy (8%), Belgium (7%), Spain (4%), and the United Kingdom (3%).<sup>4</sup>

As shown in Fig. 4a, the total fisheries catch in Madagascar is dominated by the SSF. However, the volume of catch from the industrial sector could be higher than indicated due to underreporting. The expansiveness of Madagascar’s EEZ and weak fisheries governance frameworks presents a ‘business as usual’ operating environment for industrial fishing fleets who often undertake their actions without much surveillance, monitoring and control, thereby increasing the possibility for engaging in IUU fishing [61]. The prevailing loopholes in Madagascar’s fisheries governance give legal room for industrial fishing vessels to access near shore areas where SSF operate. This not only creates a situation of conflict between the two sectors, but also intensifies poverty in small-scale fishing communities by further jeopardizing their access to a healthy source of protein and income [81]. While the government’s goal has been to facilitate economic development and provide a ‘safe space’ to allow capital flow and creation of employment opportunities, such actions are likely to compromise local fishers who historically depend on these resources. Sustainable fisheries through better management and monitoring of the SSF, is necessary, but not without a proper oversight of the industrial sector’s activities in the country, which are virtually unmonitored [62].

Although the Malagasy government has often ignored the role of SSF

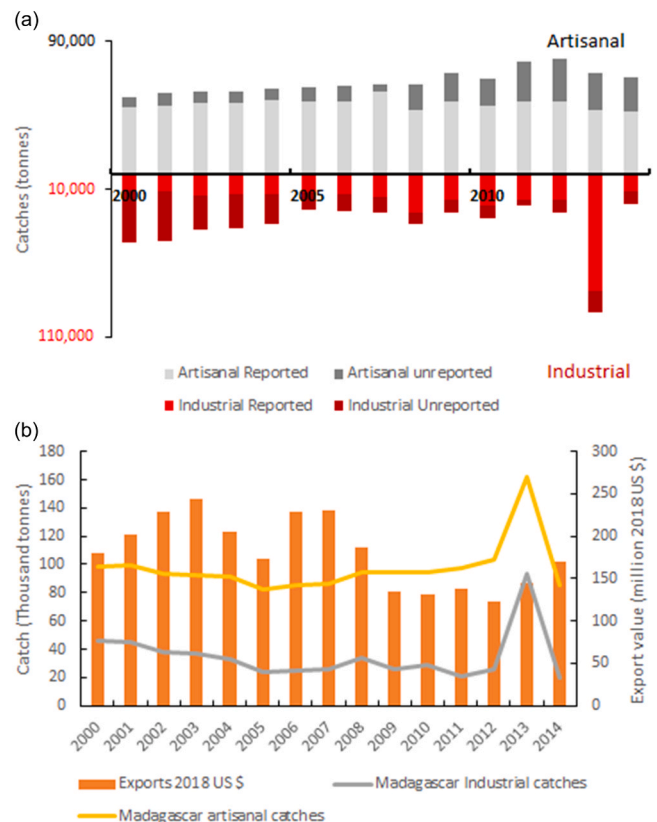


Fig. 4. a.) Malagasy reported and unreported catches by sector, 2000–2014, extracted from the FAO global landings database and the Sea Around Us database, and b.) Value of exports in seafood extracted from the United Nations COMTRADE database compared to artisanal and industrial catches (cumulated), 2000–2014.



in their policy, the SSF have in recent times gained greater visibility in their competitive struggles with the industrial sector which has clearly influenced political outcomes. Specifically, in 2018, the Malagasy government called off a ten-year fishing agreement with a Chinese consortium worth US\$ 2.7 billion following criticism of its potential impact on the country's food security, employment, and increasing the risk of conflicts between communities and competing resource users ([85]; D.B. pers. obs.). As stated by a representative of the artisanal fishing sector in Madagascar:

[T]he state is robbing coastal fishermen of their livelihood...Bringing several hundred ships would mean the disappearance of the 100,000 small-scale Malagasy fishermen and their families [85].

Further, the Malagasy government as of 2019 stalled the renewal of its tuna agreement which gave access to Malagasy waters to 40 tuna seiners and 54 surface long liners from the EU which expired in 2018 [24]. Both sides have failed to reach an agreement on a favourable term for the renewal as the Malagasy government is seeking better support for the SSF and a possible reduction in the number of vessels given access [24]. Undoubtedly, the government has made efforts to ensure fisheries sustainability and protect SSF. For example, in the cancellation and delay on issuing fishing agreements, and in the recent announcement of a complete ban on nearshore bottom trawling (See: [21]).

However, Madagascar's long history of fisheries agreements with DWFNs and its connection to the cycle of poverty for its people coupled with weak MCS capability says the opposite. This is because the government continues to show its commitment to developing the industrial sector, by granting access to companies from DWFNs – such as China – to export live mud crabs [96]. Specifically, the Malagasy government signed two agreements in November 2020 giving around 30 trawlers belonging to Chinese investors access to Malagasy waters [42].

Two critical points unfold in the case of Madagascar. First, the unequal power dynamics between the Malagasy government and their external partners limit the application of an equitable fisheries governance mechanism to address the real issues – even in the face of threatened livelihoods and depleted resources. Secondly, ensuring sustainable fisheries requires the government and associated actors to move beyond the rhetoric of speaking sustainability and act to sustain Malagasy fisheries resources in a way that benefits the economy, the social well-being of the people and the marine environment.

### 5.3. Somalia

Situated in the Horn of Africa, Somalia experienced a civil war from the late 1980s which ended in 1991 following the subsequent collapse of the Siad Barre regime [39,49]. Somalia presents an outlier case study because of its historical state failure, the severity of the civil war's impact, extensive security threats at sea and its contested maritime boundary [54,97]. Relatedly, Somalia has gone through several distinct gradual peace and stability phases in recent years which has increased interest in the exploitation of its fisheries by industrial fishing fleets, especially those from the DWFNs. Somalia's interest in developing its fisheries through agreements and licensing combined with the government positioning itself as open for business to international partners, provides a basis for examining the political and socio-economic dimensions of fisheries governance.

The economic value from Somalia's fish product points to the importance of fisheries to the country's economic security. In addition to trade, fisheries are a valued source of employment in the country, with the SSF employing 4500–9500 people ([17]:83). Beyond employment, fisheries in Somalia constitute a safety net for coastal communities undergoing severe stress related to climate change, droughts, and armed conflicts [15]. As shown in Fig. 5a, less than 12% of the country's landed value is contributed by small-scale fishers. This contribution to GNP however is much greater, per dollar contribution, than that generated by

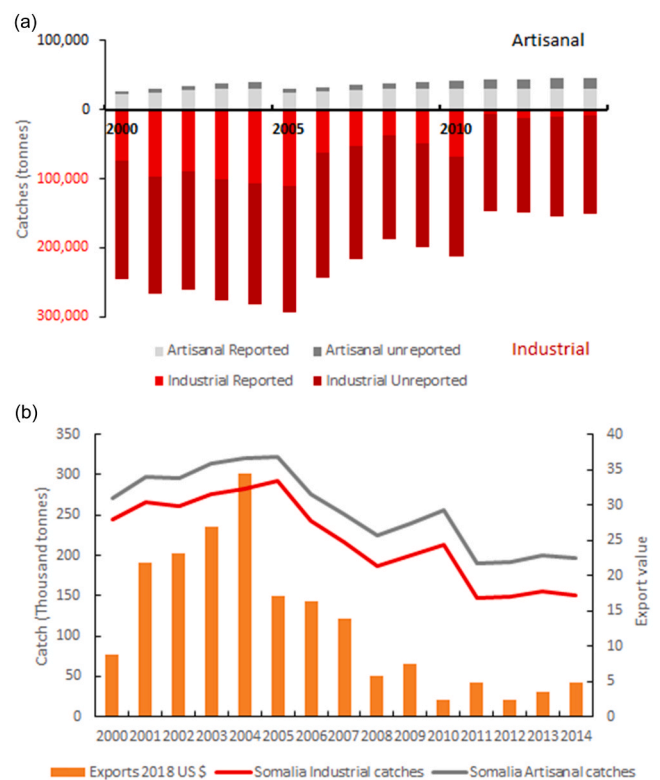


Fig. 5. a.) Somali reported and unreported catches by sector, 2000–2014, extracted from the FAO global landings database and the Sea Around Us database, and b.) Value of exports in seafood extracted from the United Nations COMTRADE database compared to artisanal and industrial catches (cumulated), 2000–2014.

the industrial sector, in particular vessels from DWFNs. Somalia has seen an increased participation of the DWFNs in its non-coastal fisheries between 2000 and 2014. The industrial catch from the country's waters is only minimally monitored with 74% of it not reported (Fig. 5a).

Despite increased fishing efforts, the downward trend of industrial catches mirrors the downward trend in exports as shown in Fig. 5b. This decrease in exports and industrial catches along with no reports of exports from Somalia, would suggest that a significant amount of imported seafood could be linked back to fishing ventures by foreign fleets from DWFNs operating in its waters. Although Somalia does not report its exports directly, COMTRADE's records from other trade partners on their seafood imports oscillated between US\$ 2–25 mil per year during the 2004–2018 period (data extracted from the UN COMTRADE database). Exports of seafood from Somalia were mainly directed towards Japan (33%), China (24%), the United Arab Emirates (15%), Ivory Coast (9%), Oman (6%), South Korea (4%), Jordan (3%), amongst others.<sup>4</sup> What is implied here is that DWFNs continue to acquire revenue from Somalia's fisheries, yet these macro-economic values are not reflected in Somalia's economy [13,40]. If managed effectively, the potential value of Somalia's sustainable fish catches is estimated at over US\$380 million<sup>4</sup> per year at first sale.<sup>4</sup> This provides an opportunity to support national economic growth and the provision of livelihoods.

The Somalia example is useful for highlighting how inadequate political and socio-economic elements of fisheries governance, whereby decisions are made solely in pursuit of economic gains, undermines the social wellbeing of the people and the conservation of the marine environment. Despite the blatant overexploitation, and the resultant impact on the country's fisheries health, the Somalian government granted 31 licences in 2018 to Chinese longline vessels to exploit tuna and tuna-like resources in their EEZ [64,91]. The government's persistent engagement with DWFNs and lack of capacity to monitor their



activities exemplifies the failure to address the existential threat that is IUU fishing, which is mostly linked to DWFNs. Besides, access by foreign fleets without proper enforcement exacerbates criminal activities such as piracy, as a response [40,54]. Some of the authorized vessels have a heavy criminal history according to the criminal register of fishing vessels (<https://spyglass.fish/>), hence there is a potential for an increase in fisheries crimes [98].

In the long run, with the increasing footprint of vessels from DWFNs, Somalia presents a case of a failure in fisheries governance to protect the SSF whilst expanding the exploitation of its resources by DWFNs. Instead of dealing with the real issue - the unsustainable practices emerging from industrial fisheries, the government continues to pit the urge for FDI before the sustainability of its fisheries and, with that, the livelihood of its people who depend on it. Further, given the visibility of SSF in Somalia, which is currently unregulated, the small-scale fishers are likely to be used as a scapegoat if the government fails to address overexploitation by the industrial sector.

Therefore, there are two important lessons for Somalia as an emerging fishing ground for DWFNs: First, it needs to deal with the real fisheries governance issues, that is, sustainability problems further offshore, while at the same time supporting its SSF sector. Else, this cycle of IUU fishing resulting in piracy and armed robbery against perpetrating vessels would likely re-emerge. Secondly, Somalia's industrial fisheries sector is highly influenced by external actors, which introduces the elitist view of socio-economic and political elements of fisheries governance mechanisms. The government will need to turn inwards to develop the SSF. Otherwise, the blue economic agenda focusing on fisheries development for the industrial sector will be counterproductive.

## 6. Survival of the Richest not the Fittest

The case studies presented here evince a trend wherein the "Richest" – the industrial sector, is prioritised by the African governments, to the detriment of the sustainability of the "Fittest" – the SSF. The exclusionary nature of the legal, political and socio-economic elements of fisheries governance that target the more sustainable SSF have hindered fishers' capacity to access the resources within their adjacent waters in an economically sustainable manner. In that way, States have failed to equitably address the existential threat on fisheries health and the resultant implications on human, national and regional security. We do not seek to undermine African governments' efforts to pursue marine sustainability through better monitoring, control, and surveillance of fisheries resources. However, we have presented evidence to show that the indiscriminate targeting of the SSF, while maintaining a "business as usual" attitude with the industrial sector, despite its role in plundering the continent's fisheries, is counterproductive. Using the four case studies, we argue that the fisheries governance regimes across the continent are selective and, at best, elitist, favouring one sector – industrial fisheries, at the expense of the other – SSF.

If the current fisheries governance mechanisms that marginalize the SSF were to continue unchallenged, it would cast doubt on the ability of the SSF to contribute to the sustainable development of the African people as envisioned in Agenda 2063 of the AU. The continued "Survival of the Richest" will result in the loss of an adaptable and profitable sector of African nations' coastal economies, the loss of traditional ecological knowledge and coastal communities' stewardship, amongst other non-quantifiable values associated with SSF. In addition, the failure to effectively govern the activities of DWFNs could escalate maritime crimes and conflicts related to the unequal access and distributions of benefits obtained from the exploitation of fisheries resources.

In most cases, African governments have managed fisheries resource-use conflicts by implementing enforcement strategies directed at the SSF due to their proximity to law enforcement. The imbalances in the regulation of access to fisheries resources may result in a general lack of stable cooperative benefits sharing [83], and alienate vulnerable

resource users. The criminalization of small-scale fishers reflects the elitist nature of the current fisheries governance regime in Africa whereby the sector that accrues economic revenues are upheld, whilst the sector that caters for the food and income security of millions of Africans are side-lined. As shown in Fig. 6, there is increasing competition on Africa's BE, with offshore oil exploitation, port infrastructure and expansion of the industrial sector, outcompeting the SSF, causing them to lose their traditional fishing grounds. Yet, the resources they extract are directed towards the food security of the African people, whilst the resources extracted by the industrial sector, especially those from DWFNs are almost always exported outside the continent. Despite evidence that shows the harmful nature of some of the activities of the industrial sector, such as overfishing and IUU fishing, conservation measures have either been disproportionately directed at the SSF and or the SSF are expected to give up their traditional fishing grounds in a bid to advance the economic agendas of African government.

Bearing the burden of policies on conservation, together with the impact of out-competition by other sectors of the BE, has led to increased poverty in fishing communities, as catches and catch opportunities for local fishers have declined, conflicts increased and fish processors and mongers, many of whom are women, are left with less fish to process and sell, respectively [55,70,73]. In the absence of adequate support from the government to build resilience to these changes, some fisherfolk themselves turn to illicit activities, including but not limited to IUU fishing, oil bunkering, informants for pirates/armed robbers and utilizing their boats for transshipment of illicit drugs, arms, and selling sex [14,20,70,95,98]. Articulating the impact of depleting fish stock on fishing communities in the context of the increase in piracy and armed robbery at sea in the Gulf of Guinea, Onuoha ([75]: 124–125) notes:

As the profits made from legitimate livelihoods such as farming and fishing diminish due to environmental pollution, overfishing by industrial trawlers and weak government protection capacity, residents are increasingly turning [away from fishing] to [becoming] 'fishers' of men, as sea bandits – sea robbers and pirates.

Breaking this cycle of unsustainable practices which further threatens the human, national and regional security in the continent, requires a sustainable solution that prioritizes the needs of the SSF. Notably, coastal states should support the SSF to build resilience to the changes they confront by adopting a unified social development

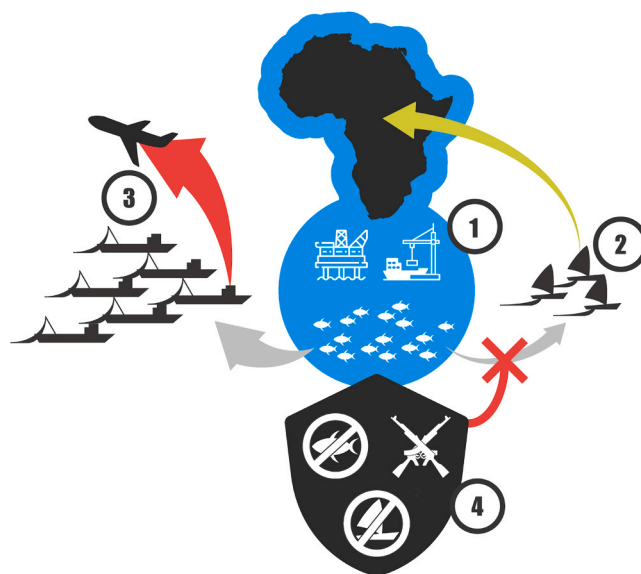


Fig. 6. Visualising the disproportionate burden of fisheries governance on SSF. 1 – Selected BE sectors; 2 – SSF; 3 – Industrial sector; 4 – Fisheries measures directed at SSF.

approach in fisheries governance. Such an approach is detailed and mandated in the FAO Voluntary Guidelines in Support of Small-scale Fisheries (VGSSF). As the name implies, the Guidelines are voluntary and were developed through a participatory and consultative process involving representatives of FAO member states, fishing communities, NGOs, and other relevant stakeholders [33]. The VGSSF sets out to achieve the sustainable use, responsible management, and conservation of fisheries through the implementation of ecosystem-friendly and participatory policies, including considering ancestral and traditional knowledge, and their related constraints and opportunities.

The VGSSF recognises that there are multifaceted factors that undermine livelihoods in fishing communities. With economic marginalization comes political exclusion, such that as fisheries decline, so too is there a decline in the ability of local fishers' to actively contribute to decision-making processes, including contesting policies that undermine their human rights and push them further into poverty [4]. By championing the promotion of human rights and the empowerment of women and men across fishing communities to participate in fisheries governance, the VGSSF is a critical next step that African states can actively explore by providing the SSF sector the support that it needs [34,35]. As highlighted in Fig. 7, there is a need to redirect fisheries governance mechanisms to address the impacts of the industrial fisheries and other sectors of the BE while implementing guidelines to protect the SSF. Doing this could, in the long run, lead to better management and conservation of ocean resources' continuity of traditional methods of conservation, supporting states' efforts to combat illicit activities by contributing to monitoring and importantly promoting the economy, while simultaneously ensuring social equity and ecological conservation.

## 7. Conclusion

We have reviewed four case studies to deconstruct the unjust nature of fisheries governance in Africa and rethink the elitist view that sustains the industrial sector while marginalizing the SSF.

We have shown that the legal, political, and socio-economic elements of fisheries governance that frame SSF as a threat lead to measures that undermine livelihoods, instead of addressing the more threatening IUU fishing of the industrial fisheries sector. The example from Ghana demonstrates the negative implications of securitization measures which have failed to address the existential threat to fisheries health

caused by the industrial fisheries. In the examples from Liberia, Madagascar, and Somalia, we show how the quest for foreign currency can drive governments to embrace the unsustainable behaviours of vessels from DWFNs. These examples accentuate the notion of the 'Survival of the Richest, not the Fittest' whereby fisheries governance mechanisms support activities of the industrial sector whilst diminishing the SSF. This reinforces the elitist perspective of fisheries governance whereby those that are vulnerable to the impact of depleting fish stocks do not have the capacity to influence policy.

Overfishing by the industrial fisheries sector is continually depleting fish stocks and thus threatening the food and economic security of millions of people in the African continent. To turn this tide, states must put multi-dimensional sustainability before profitability. This entails building collaborative initiatives that safeguard the social, economic, and environmental contributions of their natural resources [68]. An opportunity exists for African governments to create meaningful and well-implemented participatory fisheries governance measures that are inclusive of multiple stakeholders while ensuring that fishing grounds and coastal zones for SSF are sustained in the face of competing priorities. Guidance on how this can be achieved already exists in the FAO VGSSF. An inclusive approach to fisheries governance makes it possible to address legal, political, and socio-economic problems associated with the use of ocean resources. In three out of the four case studies, IUU fishing by industrial vessels is much higher than in SSF, which raises concerns about their role in plundering Africa's fisheries. We emphasise that there is an urgent need to redirect the current fisheries governance measures, including securitization, towards the industrial sector responsible for the unsustainable exploitation of the continent's resources.

We contend that the implementation of current fisheries governance measures amount to the marginalization of SSF while having little impact on curbing the unsustainable and often unreported activities of the industrial fisheries sector. This thwarts the ongoing efforts to harness the potential of the continent's ocean economy in accelerating the sustainable development of Africa by 2063. We assert that conservation and the development of the BE sectors must be inclusive in its overall design process and pay heed to the local communities that depend on natural resources for their livelihoods. If a given government cannot meet its role of providing an alternative source of livelihood, and/or securing access to resources for its most vulnerable people, then any conservation or governance approach under the BE banner has failed to achieve its intended goals.

We recognize that difficult decisions must be made to address the existential threat of depleting fish stocks, destabilizing impacts of maritime crime and rebuilding the economy post-Covid—19. Nevertheless, current efforts to govern fisheries resources in the 'blue economy' must be effective and redirected offshore to address the negative implications of industrial fisheries, especially those from DWFNs. Relatedly, reducing marine pollution, supporting communities to mitigate the impact of climate change, and adequately investing in coastal welfare will go a long way in reversing the narrative from the 'Survival of the Richest' to the "Survival of the Fittest". International organizations have a critical role in addressing the impact of DWFNs; including working with regional and sub-regional fisheries advisory bodies and partners such as the Coalition for Fair Fisheries Agreements to ensure that agreements are more equitable in protecting the socio-economic interests of coastal states.<sup>5</sup> Africa could learn a lesson from the Pacific Tuna Forum Fisheries Agency on how to form alliances to negotiate access as a bloc (e.g. through the African Union) to balance power over agreements with DWFNs, and place outcomes more equitably in the hands of the African citizens (See: [88,99]).

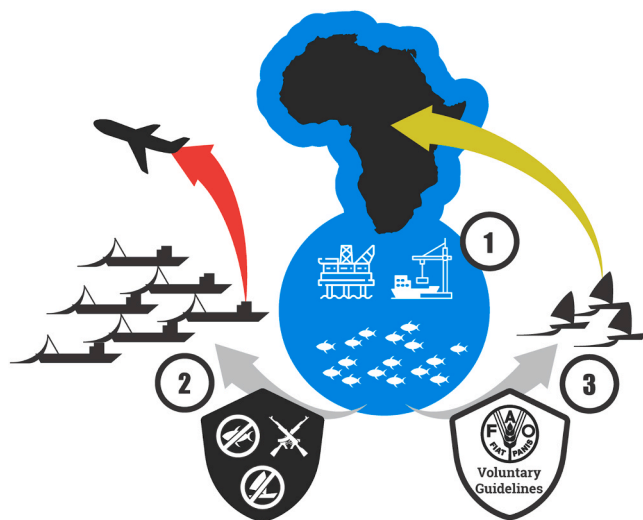


Fig. 7. Visualization of inclusive measures towards upholding the "survival of the fittest". 1 – Selected BE sectors; 2 – Fisheries governance measures redirected to the Industrial sector; 3 – FAO VGSSF measures redirected towards the SSF.

<sup>5</sup> See: <https://www.cffcape.org/>.

## CRediT authorship contribution statement

I.O-Y and N.I.K drafted the initial manuscript. D.B produced the figures and contributed to the case studies and analysis. E.H.A provided extensive feedback and contributed to the analysis. I.O-Y and N.I.K revised the manuscript. D.B and E.H.A contributed to the revision.

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