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Beseng, M. orcid.org/0000-0003-1761-3068 (2021) The nature and scope of illegal, unreported, and unregulated fishing and fisheries crime in Cameroon: implications for maritime security. *African Security*, 14 (3). pp. 262-285. ISSN 1939-2206

<https://doi.org/10.1080/19392206.2021.1982241>

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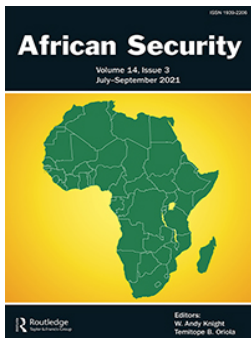
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To cite this article: Maurice Beseng (2021) The Nature and Scope of Illegal, Unreported, and Unregulated Fishing and Fisheries Crime in Cameroon: Implications for Maritime Security, African Security, 14:3, 262-285, DOI: [10.1080/19392206.2021.1982241](https://doi.org/10.1080/19392206.2021.1982241)

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The Nature and Scope of Illegal, Unreported, and Unregulated Fishing and Fisheries Crime in Cameroon: Implications for Maritime Security

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ABSTRACT

Illegal, unreported, and unregulated (IUU) fishing and fisheries crime undermine maritime security especially for vulnerable coastal nations in Africa. This is particularly problematic for Cameroon where millions of people directly depend on fisheries for their livelihoods. Drawing on primary and secondary data, this article reveals the extent of IUU fishing and fisheries crime practices, noting that their operational synergies are a threat to Cameroon's blue economy development, marine safety, ocean health and human resilience, and by extension national security. Efforts toward combatting IUU fishing and fisheries crime must recognize their synergistic relationship and ensure cooperation with sub-national non-state actors.

KEYWORDS

IUU fishing; fisheries crime; blue economy; coastal welfare; national security

Introduction

The fisheries sector matters for Cameroon's maritime security since it makes a significant contribution to the economy, food security and local livelihoods. Fisheries contributed 3% of Cameroon's estimated \$35 billion gross domestic product (GDP) in 2016¹ and employ over 240,000 artisanal fisherfolk including thousands of women who primarily depend on the fish trade for their livelihoods.² Fish also account for more than 25.5% of animal protein consumed by millions of Cameroonians³ and for some coastal communities, fishing is a social activity as it constitutes a central part of their socio-cultural system, shaping individual and community behavior. The importance of the fisheries sector to Cameroon is however threatened by recurrent reports of illegal, unreported, and unregulated (IUU) fishing and fisheries crime.^{4,5} Moreover, pollution and climate change have been projected to magnify the challenges confronting the sector.⁶

Nationally, the Ministry of Livestock, Fisheries and Animal Industries (MINEPIA) through the Department of Fisheries and Aquaculture (DPA) is responsible for managing the fisheries sector.⁷ The DPA benefits from a decentralized administrative system at the level of regions, departments, and districts and is supported by a host of institutions involved in fisheries

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management. The main regulatory framework is Law No. 94/01 of January 20, 1994, on forests, wildlife, and fisheries, supplemented by a collection of texts of application – Decrees, Orders, Decisions and Notes.⁸

Previous studies have shown that current governance arrangements are inadequate to address the challenges confronting the fisheries sector due to poor implementation of regulations and lack of resources.⁴⁻⁷ For instance, in February 2021, the European Commission issued Cameroon a “yellow card” for not having adequate protections in place to limit IUU fishing.⁹ The inability to better govern the fisheries sector is further compounded by a lack of knowledge of the complexities that stretch beyond IUU fishing mindful of its synergies with crime.¹⁰ This study helps to fill the gap in knowledge by drawing from empirical evidence captured in Cameroon’s West Maritime District (WMD) (Figure 2) to examine the nature and scope of IUU fishing and fisheries crime and assess the implications for maritime security.

The remainder of the paper is divided into five sections. Section one conceptualizes the study, arguing that there has been a broadening of the understanding of illicit practices along the fisheries value chain – from IUU fishing to fisheries crime¹¹ - and equally a broadening of our understanding of the concept of maritime security beyond the traditional notion of threat to national security from military sources.^{12,13} Section two discusses the research methodology while the results are presented in section three and section four. Section five then concludes the article by synthesizing key findings.

IUU fishing and fisheries crime as a threat to maritime security

IUU fishing and fisheries crime are two concepts increasingly being used to refer to a wide range of actions that directly or indirectly impact on fish value chains.¹¹ The legal meaning of these concepts is subject to debate.¹⁴ However, with respect to IUU fishing, the United Nations Food and Agricultural Organization (FAO) International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported and Unregulated Fishing (IPOA-IUU) – provides a functional description summarized thus:

“Illegal fishing” constitutes fishing and fishing-related activities conducted in contravention of national, regional and international laws, while “unreported fishing” involves the non-reporting, mis-reporting and under-reporting of information on fishing operations and their catches. “Unregulated fishing” meanwhile constitutes fishing activities that are not regulated by states, fishing in areas or for fish stocks for which there are no management measures and fishing in a Regional Fisheries’ Management Organization (RFMO) area by vessels of nonmember states.¹⁵

The FAO IPOA-IUU also proposes an anti-IUU fishing paradigm that seeks to address transgressions in the fisheries sector largely as an administrative law enforcement problem through the strengthening of fisheries management

rules and by stepping up compliance via increased monitoring, control, and surveillance of vessel activities at ports and at sea.^{16,17} Since the adoption of the anti-IUU fishing paradigm, IUU fishing remains one of the greatest threats to fisheries management, accounting for over 20% of the world's caught fish¹⁸ with annual global economic losses of between US\$26 and US\$50 billion.¹⁹

The drivers of IUU fishing are complex, as perpetrators often exploit poor global governance structures to engage in transshipment at sea, landing of catches in ports of convenience, operating under flags of convenience, deactivating vessels identification and monitoring systems, using false documents and subjecting fishers to poor working conditions and safety standards.²⁰ There many global efforts to eradicate IUU fishing such as through the 2015 United Nations Sustainable Development Goal 14. Target 14.4 aimed to end overfishing, IUU fishing, and other destructive fishing practices by 2020. But this has not solved the problem, underlying its pervasiveness and continuous threat.^{20,21}

Mindful of persistent governance challenges, there has been increasing global consensus that the anti-IUU fishing approach is inadequate to address violations in fisheries. In 2015 for instance, an FAO expert consultation meeting convened to evaluate the magnitude of IUU fishing noted that its characteristics and magnitude have changed in that, it can now be associated with organized crime.²² Indeed, there is increasing evidence that shows fishers' activities and vessels that engage in IUU fishing can constitute, lead to, or go hand-in-hand with other crimes that are organized and transnational in scope.²³ The concept of fisheries crime now captures the range of criminal practices that occur along the fisheries value chain and has been accepted in the international political arena both as an inherent aspect of the problem of sustainable fisheries management and as a threat to international security.^{24,25}

International action on understanding and combatting fisheries crime has sought to group criminal practices into fisheries-related crimes and crimes associated with the fisheries sector. While the former is concerned with crimes linked to fishing operations that do not necessarily constitute the act of fishing per se (e.g. corruption, forged fishing licenses, tax crimes, inappropriate working conditions), crimes associated with the fisheries sector (e.g., drug trafficking, human trafficking, arms trafficking, and piracy) are those that use the sector as a cover or take place on fishing vessels but may have no direct connections with fishing operations.^{11,27} The relationship between these concepts ([Figure 1](#)) indicates that in some cases, a fishing operation or fishing vessel may be involved in activities that fall into both IUU fishing and fisheries crime. While the operational links that make the fisheries sector vulnerable to or synergistic with crime are increasingly seen as a maritime security challenge, throughout history competition and squabbles over fisheries resources have often led to serious conflicts.²⁸

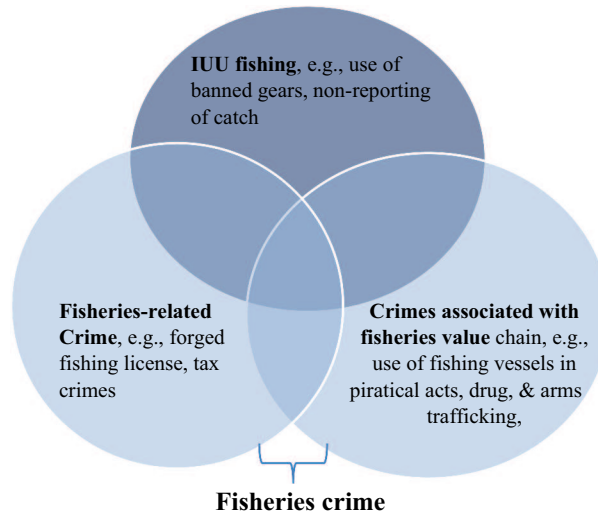


Figure 1. Relationship between IUU fishing and fisheries crime.²⁶

Maritime security implications

In the last two decades, both IUU fishing and fisheries crime have featured prominently in discussions and official narratives not always concerned with fishery management especially those related to maritime security. For instance, in 2008, the Secretary General report to the United Nations General Assembly (UNGA) identified IUU fishing as a specific threat to maritime security.²⁹ Meanwhile, the 2050 Africa’s Integrated Maritime Strategy (2050 AIMS Strategy) notes that beyond the focus of direct military threats to the survival of African states, other threats and vulnerabilities to the continent include environmental crimes (deliberate maritime pollution) and IUU fishing, transnational organized crime, arms and drug trafficking, illegal oil bunkering, piracy and armed robbery at sea, human smuggling and trafficking, and maritime terrorism.³⁰ Furthermore in 2019, the United Nations Security Council held its first ever debate on the theme “transnational organised crime at sea as a threat to international peace and security” and noted fisheries crime as one such threat especially for countries in the Gulf of Guinea.²⁵

These developments at the highest level of policymaking underline the increasing broadening of our understanding of the concept of maritime security, traditionally framed in terms of military or policing issues, such as threats to a nation state from other national navies.¹³ This narrow conception is increasingly challenged by a recognition of threats from various sources including both state and non-state actors.¹² Moreover, these threats, which can be interlinked and transnational present different security challenges to end

users since it can impact different areas of interest such as the marine environment, economic development (blue economy), human resilience and national security.³¹

Marine environmental concerns encompass issues related to marine safety, vessel safety and regulation, maritime search and rescue, state of ocean health, and broader environmental security issues such as the impacts of climate change.³¹ The blue economy perspective captures the prospects and promises of the maritime environment as development spaces, as well as spaces that need to be protected to “improve wellbeing, social equity, while significantly reducing environmental risks and ecological scarcities.”³² The concept of human resilience meanwhile shifts the focus of maritime security away from states to human beings by focussing on human rights, safety from violence and access to food.¹²

In Africa for instance, marine fisheries provide food and employment for an estimated 35 million people.³³ However, when fisheries resources are threatened, the consequences for maritime security can be dire. In Nigeria, Okafor-Yarwood²¹ has demonstrated that there is a cyclical relationship between IUU fishing, human, and national security. This is because when IUU fishing depletes fish stocks it does not only cause harm to the marine environment, but it also impacts on the livelihood choices of coastal communities who depend on fisheries. Compromised livelihoods from fisheries push some individuals to engage in other activities – including drug trafficking, piracy, or armed robbery at sea, which can further impact on national and human security. In other cases, proceeds obtained from fisheries-related drug and human trafficking can be used to fund rebellion in unstable countries thus compromising national security.³⁴ Thus by their nature, scope and operational synergies, IUU fishing and fisheries crime can therefore be seen to pose a significant threat for maritime security. With the conceptual framework laid out, the ensuing sections focus on the Cameroon case study.

Methodology

The study area

Cameroon’s maritime area is divided into the West, North and South Maritime Districts reflecting the three administrative coastal regions of the country (Southwest, Littoral, and South) respectively (Figure 2). The coastal zone which is 402 km long hosts 60% of the country’s national industrial infrastructure including important agricultural industries, which contributes 30% of country’s Gross Domestic Product (GDP).³⁵ Some 15% of the population – estimated in 2019 at approximately 26 million inhabitants³⁶ – live along the coast. With a coastal urbanization rate of 80% compared to 50% in other areas, the maritime area is under significant pressure.³⁵

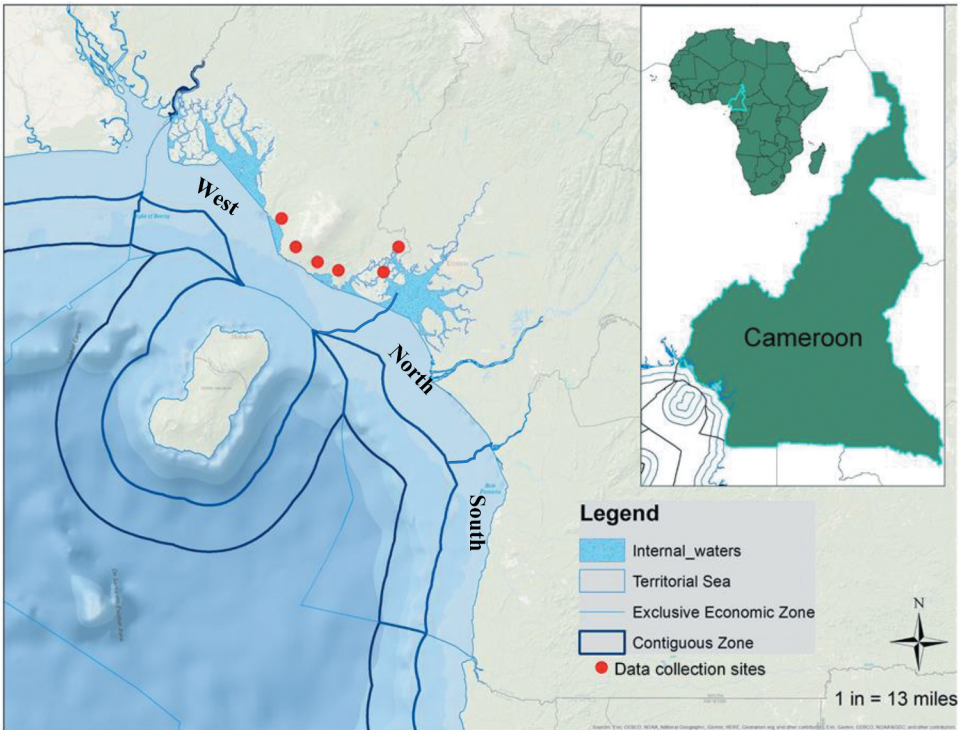


Figure 2. Cameroon maritime area showing data collection sites. Source: Design by author using datasets from Flanders Marine Institute.³⁷

Maritime fishery is broadly divided into industrial and small-scale (traditional artisanal and semi-industrial) fisheries. Historically, both sectors have been dominated by foreign fishers largely due to Cameroonians' lack of interest in engaging in fishing.^{5,38} Industrial fishing is exploited by an estimated 70 industrial foreign fishing vessels, some working in partnership with Cameroonian entrepreneurs, while for small-scale fisheries 79% of an estimated 34,500 fishers are from neighboring countries – mainly Nigeria, Ghana, Benin, and Togo.⁶

Data collection and analysis

To understand the contemporary challenges confronting Cameroon's fisheries sector and to assess the implications for maritime security, the following questions guided the data collection exercises:

- (a) What practices constitute IUU fishing and fisheries crime in the marine fisheries sector?
- (b) How do these practices affect maritime security at community and national levels?

Data were collected using literature review, semi-structured interviews, and direct observations. Primary data were collected in Cameroon's West Maritime District (WMD), where the characteristics of the fisheries sector are seen as a microcosm of the national trend. In the WMD, industrial fishing is carried out entirely by 9 foreign fishing vessels mainly from China and Nigeria and often in partnership with Cameroon business entrepreneurs, while the small-scale sector is dominated by 4,000 artisanal fishers, with 65 percent from Nigeria, 17 percent from Ghana, 9 percent from Benin, 8 percent from Cameroon and 1 from Togo.³⁹

A total of 28 respondents (Table 1) including: state agents (n = 12) and non-state actors (n = 16) were interviewed. State agents were selected using fixed purposeful sampling targeting institutions and officers with roles in fisheries management at the regional, district, and sub-district levels. Non-state actors were selected using a purposeful and snowball sampling technique to engage those directly concerned with fisheries exploitation. Most were community-based fisheries organizations (n = 12), concerned with either catching, processing, or sale of fish products. Other civil society organizations (n = 4) were concerned with sustainable environmental management issues.

Interviews and direct observations of fishing activities at fish landing sites were conducted from September to November 2016 with follow-up interviews in January 2019. All recorded interviews were transcribed and together with the observation records and relevant literature reviews, the data was loaded into Nvivo qualitative data analysis software to aid analysis.⁴⁰ An inductive thematic approach was adopted to code the data and generate themes that respond to the research questions and focus of the study.⁴¹

Results and discussion

The nature and scope of IUU fishing in Cameroon

Illegal fishing

The violation of fishing zones especially by industrial fishers was reported as the most recurrent illegal fishing problem. An artisanal fisher noted that

Table 1. Category of respondents interviewed (Source: Author).

Stakeholder	Respondent	No.
State agents	Delta-BIR officer	1
	Officers from MINEPA's Fisheries Control Centers, Fisheries Control Posts and Divisional/Regional delegates	5
	Officers at divisional and sub-divisional delegation of Customs	2
	District & sub-district Merchant Marine Service Officers	2
	Researchers at Institute for Research & Agricultural Development	2
	Leaders of community-based fisheries organizations	12
Non-state actors	Leaders of other civil society organizations	4
	Total	28

The industrial trawlers should fish far off (>3 nautical miles) but because fish are hard to get there, they are turning and coming our direction and they come very close to the shore. Sometimes when fishing at night, they come close to the shore and if they suspect that the BIR [military] will intercept them they will turn off their lights. Sometimes they can even come towards you [artisanal fisher] and you would not know that it is a big trawler because they will be using only a little torch and they can carry you with all of your net and will kill you .⁴²

Most respondents attributed the increase in violation of fishing zones to the increase in industrial fishing trawlers in the WMD. Hosch⁴ had posited that, due to systemic weakness in monitoring, control, and surveillance, there was a sudden surge in the number of industrial vessels landing their catch in the only industrial fishing port at Tiko in the WMD, instead of the usually preferred port of Douala (in the North Maritime District). The number of industrial vessels that registered and offloaded their catch in the WMD rose from 11 in 2011 to 38 in 2012 and an additional 16 were registered in 2013, 9 in 2014 and 2015 and another 5 by the third quarter of 2016.⁴³ This was an unprecedented increase for a maritime district that used to have only four vessels registered and landing their catch in the region prior to 2010.⁴⁴

While the competition for fisheries resources between industrial and artisanal fishers within the 3 nm zone has been a problem since the 1980s and 1990s^{45,46} what is more concerning now is the tactics employed by industrial fishers to evade capture as reflected in quote above. A fisheries official notes that there is fierce resource competition for fish close to shore because it harbors fish breeding grounds and provides high concentrations of fish.⁴⁷

However, while most previous studies^{45,48} identified industrial fishers as those violating fishing zones, it was evident in this study that small-scale fishers are implicated as one industrial fisher noted:

They [artisanal fishers] too, they exaggerate sometimes because when fishing is difficult in their zone, they leave their 3 nautical mile limit and come and disturb us in our zone. That is the problem we have every day.⁴⁹

Another prominent illegal practice is that of twin or pair trawling. Although the practice was outlawed in Cameroon in February 2000,⁵⁰ it is still a common occurrence. Fisheries officials and artisanal fishers corroborate previous studies^{4,6} that most vessels implicated in twin trawling are of Chinese origin and controlling their actions has proven difficult since they fish mostly at night when there is no surveillance activity from the military.⁵¹

Deliberate marine pollution is another major illegal fishing activity and Chinese industrial fishers are also implicated here as the leader of a community-based fisheries organization notes

So, while the issue of twin trawling has reduced, the Chinese fishers have brought in another system. When they are fishing, they throw some chemicals on the fish that float on top of the water [bycatch discards] and we have complained to the government and some fisheries officers have seen this for themselves. They do this because, after selecting their big fishes they would throw chemicals on the rest to make them rotten fast and sink to the bottom of the water and they will get rotten even more there. And this makes fish to run away from the area because they don't like the odour. So, when there is an odour this way, the fish have to migrate making it difficult for us to find fish in Cameroon waters now.⁵¹

This means that Chinese industrial fishers do not only violate fishing within 3 nautical miles, but they also use toxic chemicals to accelerate the dissolution of bycatch discards probably to cover evidence. It is important to note that, article 18 of Law No. 94/01 of 20/01/1994, bans the discharge of toxic wastes into the environment. It is a criminal offense and attracts a prison term of between one to three years or a fine of between ~US\$100 to US\$10,000.⁸ The use of chemicals in fishing is also a problem in small-scale fisheries. A fisheries control officer notes that “we do have issues of IUU fishing in this part of our coast. The major one is the use of chemicals called gamalin 20 [an organochlorine pesticide] for fishing by local fishermen.”⁴⁴ Indeed, while the use of chemicals in artisanal fishing practices has been reported by previous studies,^{6,48} this study shows that it is also a problem in the industrial sector and an indication of the pervasiveness of the practice.

The destruction of artisanal fishing nets by industrial fishers is also a major problem as the leader of a community-based fisheries organization notes:

[w]hen they damage our nets, and we want to confront them, the vessel captain will threaten us with a gun. This is something that is really above us because as artisanal fishers we are not allowed to carry weapons like guns and very dangerous knives to sea.⁵²

Responding to such allegations, an industrial fishing entrepreneur notes: ‘[t]he problem is that most often when we leave the port to fish in the zone that has been allocated to us and when returning we destroy their nets, that is not good.’⁴⁹ This seems to suggest that the destruction of artisanal nets by industrial fishers is largely by accident.

What is not an accidental occurrence, however, is the transshipment at sea and landing of fish in foreign countries, which is common to both industrial and artisanal fishing sectors. In 2013, a fisheries officer had noted that, “Cameroon waters are porous like land frontiers. Out of more than 60 industrial vessels, less than 10 of them anchor on the shores of Cameroon.”⁵³ Both Nigerian and Chinese vessels are implicated.^{4,6} In the 2000s, Nigerian industrial and artisanal fishers landed their catch (mostly shrimps) in Nigerian ports and these were then processed and exported to the European Union (EU) under a Nigerian label, resulting in Cameroon being

suspended from exporting fisheries products to the EU in 2004.⁶ During this period, it was noted that the “socio-economic, cultural, and family relations [of Nigerian fishers in Cameroon and those in Nigeria] favor the trafficking of Cameroonian fish.”⁵³ These factors still encourage the transshipment and landing of fish caught in the WMD in foreign ports as a Community-based Fisheries Organization leader notes: “selling my catch whether fresh or smoked in a Nigerian market brings in more income because of the high demand for smoked fish.”⁵⁴

Fisheries officers also identified non-matriculation of fishing vessels and fishing without a license as a huge problem in the artisanal sector. The process of vessel matriculation and obtaining a fishing license is managed by two institutions: The Merchant Marine Service of the Ministry of Transport and Ministry of Fisheries and Animal Industries respectively. Poor data collection and recording and lack of effective coordination between these two institutions make accountability difficult.⁴⁷

Other persistent illegal fishing practices as noted by respondents are fishing in breeding grounds (especially mangrove forests) and the deliberate destruction of these to smoke fish.^{44,47,54} As shown above, these illegal fishing practices are complex and can be linked to other fisheries infringements along the fisheries value chain.

Unreported fishing

In the WMD, unreported fishing includes transshipment at sea and landing of catch in foreign ports. The head of a Fisheries Center notes that, “when we had the means to carry out impromptu surveillance at sea, on many occasions, we found trawlers that exchanged cargo including fish.”⁵⁵ Most fishery officers’ note that, many artisanal fishing vessels (especially from Nigeria) clandestinely land their catch in foreign ports, a situation, which as discussed in the preceding section is enhanced by the social ties that these foreign fishers in Cameroon have with their home countries.

Closely related to transshipment and landing of catch in foreign ports is the non-declaration of catch in Cameroon. Even if fish are landed in Cameroon, there is under-reporting or lack of reporting. For instance, during observations at some fish landing sites, fishery officers use vague estimations, while some artisanal fishers’ hand over packages to officers to either overlook their catch so that they pay less in taxes (or nothing). In one artisanal landing site, there was no fisheries officer to record catch data.

Non-reporting of by-catch (including of protected species) is also common in both sectors. According to a senior fisheries officer, the lack of an efficient data collecting, reporting, and management system remains a major obstacle in efforts to combat IUU fishing.⁴⁷ My observations in 5 artisanal landing sites and the only industrial fishing port in the WMD confirmed that fisheries control officers still use vague estimations to record fisheries catch data.

Indeed, lack of an efficient data collection system has been a major issue since the 1960s^{38,56} with some landing sites having no data collection system in place.⁶

Unregulated fishing

Notwithstanding that since 1962, the government has enacted over 62 different pieces of legislation to regulate maritime fisheries,⁸ a senior fishery officer notes, “more effective laws are needed to combat IUU fishing.”⁴⁷ For instance, article 125 of Law No. 94/01 20/01/1994 regulating non-declaration of catch proposes a penalty of US\$10,000–20,000 if the offense is committed by a foreign industrial vessel. This sum is small compared to fines of up to US\$1 million levied on foreign trawlers involved in similar offenses in Ghanaian waters.⁵⁷ Additionally, some existing national fisheries regimes contradict regional and international fisheries management regulations. For example, while the United Nations Convention on the Law of the Sea articles 61 and 62 recommend that coastal states determine the total allowable catch and that resources should be exploited within maximum sustainable yields,⁵⁸ Cameroon’s main fisheries regime (Law No. 94/01 20/01/1994) has no such stipulations. This means efforts to ensure optimum resource use and regulation of fishing seasons are not effective or are non-existent. However, the problem is not only lack of effective laws, but also poor enforcement of existing laws. Almost all respondents echo this view, noting that there is a lack of resources (human and material) to enable better fisheries enforcement. For instance, the Brigade for the Control and Surveillance of Fisheries created in 2005 with a mission to implement a monitoring, control, and surveillance system in Cameroon, has only a central structure within MINEPIA, located in Yaounde, over 300 km away from the WMD. The Brigade has very limited human and material resources to support all three maritime districts. Since its creation, the Brigade has just 30 officers, one mid-range patrol vessel, eight inshore patrol vessels, two sets of equipment for two radio telecommunication stations (in North and South maritime districts) and no offshore patrol vessel.⁵⁹ The Merchant Marine Service faces similar challenges. Though tasked with ensuring security and safety of sea-going vessels, crew and cargo, a senior officer noted that, the service depends on ‘one flying boat instead of a patrol vessel to carry out monitoring, control and surveillance activities in the area’⁶⁰

A largely unregulated issue is the exploitation and trade in fish bladder (or fish maw when dried). The industrial port in the WMD is at the center of a transnational hub of secretive trade in the fish bladder of the giant Cameroon Croaker (*Pseudotolithus moori*) but, there is a gross lack of awareness among fisheries officers of value of the fish maw trade.⁵ Traditionally, fish bladder in Cameroon is considered a waste product, an under-utilized organ. However, one of the emerging trends in fisheries trade globally is a shift in attention from ‘flesh to maw’⁶¹ as the popularity of fish maw increases. In Hong Kong for

instance, the retail price of non-fried maw – depending on physical and age characteristics – ranges from US\$50 to US\$21,500 per kilogram and maw from croaker fish species is at the top end of the price scale.⁶¹ Hence, the secretive and unregulated trade in croaker maw in Cameroon is more profitable than the regulated trade in the flesh itself thus subjecting the species to overexploitation.

Fisheries crime

Cameroon's 1994 fisheries legislation stipulates criminal sanctions for illegal and unreported fishing ranging from 10 days to 3 years in jail and fines from US\$30 to US\$20,000.⁸ Hence, some fisheries offenses directly related to the act of fishing *per se* constitute a crime. Beyond this, IUU fishing practices are also associated with various types of crimes along the fisheries value chain broadly categorized here as fisheries-related crimes and crimes associated to the fisheries sector.

Manifestation of fisheries-related crimes

Corruption has been identified as a major fisheries crime problem. Cameroon's penal code defines corruption as either an act of soliciting, accepting or receiving any offer, promise, gift or present (active corruption, s.134) or as the act of making promises, offers, gifts and presents or yielding to requests (passive corruption s. 134–1) for one's favor or benefit.⁶² Sanctions for active corruption range from imprisonment of 5–10 years and a fine from US\$350 to 3500 while for passive corruption it ranges from 1 to 5 years imprisonment and with a fine ranging from US\$200 to 2000.⁶²

Some artisanal fishers claim that they have to offer bribes (either in cash or in kind) to obtain a matriculation number for their fishing vessel from the MINTRANS' Merchant Marine Service or a fishing license from the MINEPIA district and sub-district offices. However, the senior officer of the Merchant Marine Service notes that, artisanal fishers prefer to offer bribes – either in kind or cash – to avoid renewing their yearly fishing licenses and vessel matriculation.⁶⁰

Bribery and extortion are also common at sea, with both fishers and fishery officers involved in either active or passive corruption. A respondent notes, “fisheries and Navy patrol officers will ask for fish”⁴² in return for them ignoring their fishing practices. Indeed, during some visits at fish landing sites, I observed how artisanal fishers” hand over parcels to fisheries inspectors to either overlook their catch quota or the size of fish caught.

Corruption is also rife in the early stages of industrial fisheries value chain during the process of obtaining an authorization to engage in fishing and in securing an industrial fishing license. The process is shrouded in secrecy since local industrial fishing entrepreneurs negotiate fishing partnerships with foreign industrial fishing companies without much scrutiny from national fisheries officers into the nature of such partnerships. The lack of transparency of

such industrial fishing partnerships further enhances other criminal practices, notably bribery and abuse of function. A senior officer of the Cameroon Merchant Marine Service posited that it is difficult for the service to ensure every fishing vessel is matriculated because elites with stakes in industrial fishing partnerships prevent his service from effectively carrying out its function.⁶⁰

Labor market crimes are also a concern. With regard to the use of sub-standard fishing vessels in fishing, a notable case illustrates the extent of the problem. The Department of Maritime Affairs and Inland Waterways reported that, on 11 June 2009,⁶³ navy officers intercepted a fishing trawler TIMI I LA 882, in Cameroon's territorial waters with nine fishers onboard claiming to be Nigerians. They had no identification document; no fishing license and the vessel had no flag. The trawler was in an advanced state of degradation with no provision for first aid. Reflecting on this case, the Merchant Marine officer further notes that, most fishing vessels lack a certificate of navigation and loading certificate, which is issued by the service to indicate the vessel's seaworthiness.⁶⁰ Thus, workers onboard such vessels are exposed to inappropriate working condition with health and safety risks contrary to section 95 of Cameroon's Labor Code.⁶⁴

The fisheries sector is said to exhibit some of the worst forms of human rights abuse, especially regarding child labor, records indicating children are trafficked and forced to work in the sector.⁶⁵ With over 80% of artisanal fishers being immigrants from Nigeria, Benin, Togo and Ghana, workers are prone to abuse. A Nigerian boy was trafficked from Oron to the WMD where he spent 3 years working in fisheries and doing other domestic chores before he was rescued and returned to Nigeria.⁶⁶ One respondent note that most immigrant boat owners bring in workers from their country of origin to work as assistant fishermen, boat constructors, mechanics, fish mongers or fish smokers. But when fishing becomes difficult, they cannot look after their workers, and they will either send them back to their country of origin or allow them to seek alternative employment in Cameroon.⁵¹ Fishers who seek alternative employment have "little or no labour protection as most live and work in deplorable working environment with serious health and safety concerns."⁶⁰ Moreover, for some artisanal fishing entrepreneurs, it is socially acceptable that children get involved in fisheries at a very young age. An artisanal fishers' union leader who also doubles as representative of an immigrant fishing community recognized the importance of early involvement of their children in fisheries work as "continuing a tradition and setting them up for life."⁶⁷ Such a stance compromises children's chances for education or alternative livelihood choices.

Manifestation of crimes associated with the fisheries sector

Table 2 shows a variety of crimes associated to the fisheries sector as reported by the Cameroonian Navy. The regional delegate for MINEPIA in the WMD, and Merchant Marine officers corroborate these incidents since their services were invited to be part of further investigations. The data indicate that fuel smuggling using fishing vessels is a major criminal activity. The importation of illicit fuel locally referred to as “funge” or “zoa zoa,” into Cameroon, particularly from Nigeria is widespread since it is cheaper and readily available compared to that obtained from official pumping stations. In 2016, the government launched “Operation HALCOMI” (Stop illegal trade), with a major aim to counter illicit trade by sea, yet, at the Idenau fishing port, the heavy smell of “funge” masked that of fish as I observed how an adapted fishing boat was offloading its cargo of contraband goods comprising thousands of liters of fuel and hundreds of bags of rice. Among the customers are dealers, police, and custom officers, elements of the Delta BIR force and ordinary civilians. Thus, even government officials depend on “funge” for their operations since there is actually no petrol filling station in the area.

The smuggling of contraband either into Cameroon or from Cameroon to neighboring states using the fisheries sector, is also a major issue. Many communities in Cameroon are heavily reliant on informal cross border trade, which accounts for about 96% of official trade.⁶⁹ For instance, Cameroon depends on Nigerian goods for 70% of its basic commodities and the majority comes by sea.⁷⁰ The sea corridor links Tiko and Limbe (in WMD) to Calabar (Nigeria) or Idenau (WMD) to Oron, Ibaka, and Delta in (Nigeria) where a variety of goods including fuel, medicine and foodstuff, are traded.⁷¹ A senior customs official notes that while they have identified about 100 entry points by sea where goods are smuggled into Cameroon, they can monitor just 50, hence the other half are a problem.⁷¹

An equally worrying criminality associated with the fisheries sector is illegal immigration. The association is largely by using fishing vessels to move people from one nation to another. As one of the examples in Table 2 shows, 43 suspected illegal immigrants were found onboard 3 fishing trawlers (Olokun XIII”, “Olokun VIII” and “Kulak X”) in Cameroon territorial waters, potentially destined for work in the fisheries industry in Cameroon. In most cases, Cameroon’s large immigrant artisanal fishing entrepreneurs are directly implicated since they use their fishing vessels to bring in workers from their countries of origin to work in fisheries sector in Cameroon. A representative of an artisanal fishers’ association notes that, because of declining fisheries resources, many foreign workers who use to work as fishing assistant, in fish processing, boat and net repairs now have to look for work elsewhere.^{51,72} In addition to illegal immigration, fishing vessels have also been intercepted illegally transporting arms, timber, wildlife, and money (Table 2). These crimes are not isolated incidents

Table 2. Crimes associated to the fisheries sector (compiled by author from various Cameroon Navy Facebook reports)⁶⁸

No	Crimes-associated with the fisheries sector	Incident description
1	Fuel smuggling	24 June 2016, Cameroon Navy (CN) intercepted a fishing canoe carrying 112,000 liters of illicit fuel 4 Sept 2016, CN intercepted several fishing canoes carrying illicit diesel oil. 16 Oct 2016, CN intercepted canoes carrying 20,000 liters of illicit fuel off coast of Southwest Region. 28 Nov 2016, CN seized a vessel carrying over 100,000 liters of gasoline. 26 Oct 2017, CN intercepted a tugboat (used for fishing) selling fuel 22 Jan 2018, Nigerian flagged trawler, Fogo-Isle, caught selling illegal fuel 11 Dec 2018, two boats carrying illegal fuel was intercepted off the coast of Douala 6 Sept 2019, CN seized 110 barrels (~27,500 liters) of fuel off the coast of Limbe, destined for Cameroonian market. 3 May 2020, CN Patrol vessel intercepted 2 canoes with no registration documents, carrying 90,000 liters of gasoline/petroleum products and illegal immigrants 29 June 2020 -CN – boarded a canoe carrying 58 barrels of 250 liters each and 14 liters adulterated fuel off the coast of Limbe
2	Smuggling contraband goods	29 June 2016, CN intercepted a canoe carrying 9,700 bags of contraband rice each weighing 50 kg 23 Jul 2016, CN officers boarded a canoe off Rio Del Rey involved in smuggling assorted goods 25 Aug 2016, CN boarded a canoe carrying over 5,000 bags of rice 24 Sept 2016, CN seized about 400bags of rice from canoes off the coast of the Southwest Region 13 Oct 2018, CN intercepted a fishing canoe transporting contraband goods.
	Illegal immigration	23 July 2016, CN intercepted a canoe off Rio Del Rey carrying illegal immigrants & contraband, counterfeited bank notes 8/9 Sept 2018, CN caught three fishing trawlers (Olokun XIII”, “Olokun VIII” and “Kulak X”) carrying 43 suspected illegal immigrants. 13 Oct 2018, CN intercepted fishing canoe transporting many illegal immigrants
3	Arms smuggling	8/9 Sept 2018, Olokun XIII”, “Olokun VIII” and “Kulak X” caught with 5 automatic weapons and ammunitions
4	Timber smuggling	4 Sept 2016, CN intercepted several canoes carrying illicit timber logs destined for export 23 Sept 2016, CN intercepted canoes carrying timber logs from protected tree species.
5	Wildlife smuggling	10 June 2016, CN intercepted a canoe in internal waters carrying 41 pieces of Ivory
6	Money laundering	23 July 2016, CN intercepted a canoe off Rio Del Rey with counterfeited bank notes

Maritime security implications

Depleting fish stock and marine pollution

The study data reveals that IUU fishing and fisheries crime practices directly or indirectly account for marine pollution and the depletion of fish stocks. With respect to the latter, illegal catches in the Cameroon maritime area by foreign industrial trawlers rose from 2,300 tons in the mid-1980s to 95,000 tons/year in the late 2000s,⁷² while the state loses on average 18,697 to 30,779 tons/year of unreported fish catches to illicit trade.⁷³ The local population is finding it hard

to access once usually common fish species as the president of a Women Fisheries Cooperative Society notes, “due to illegal fishing, some popular local fish species like Groupers and Barracudas are not seen again.”⁷⁴

Illegal fishing also impacts other resources. A marine research officer notes that some endangered species are still sold in local markets because fishers “deliberately catch some species that they know are endangered like marine turtles and they just cut it into pieces and tie them away so that even those who are inspecting at the landing site cannot notice.”⁷⁵ Indeed, illegal artisanal fishing alone removes up to 1,241 sea turtles yearly from the ocean of which 400 are either caught intentionally for local consumption or sale in national and regional markets while the rest is caught as bycatch.⁷⁶

The use of chemicals at sea is also a major concern. As discussed above, artisanal fishers use gamalin 20 to kill fish, while industrial fishers use chemicals on their bycatch discards at sea to accelerate their decomposition and potentially cover evidence of illegal discharge of bycatch at sea. The use of chemicals is harmful to marine habitats since it can kill fish and when consumed, can impact on human health. Moreover, it causes fish to migrate to healthier environments further reducing available fish stock and exacerbating fish scarcity. Equally, oil spills resulting from the transportation of fuel from adapted fishing canoes causes pollution with negative impact on the marine environment.

Impact on revenue generation

Illegal maritime fishing costs Cameroon about US\$33 million/year⁷⁷ and the government spends an estimated US\$165 million/year on fish imports.³ This is significant considering revenue generated from industrial and artisanal fishing licenses from 2000 to 2009 amounted to only ~US\$289,161.⁷⁸ In another study, the estimated loss in annual economic impact due to the diversion of fish from the legitimate trade system is US\$2,600– 43,000/year, while losses to the country’s tax revenues is approximately US\$9,000– 14,000/year.⁷³ In addition, mindful of the shrimp export ban by the EU in 2004, which is still in force, legal fishers are still suffering financially from loss of export revenue. Thus, IUU fishing and fisheries crime directly or indirectly sucks out money from government finances and legal fishers that would otherwise be used to provide services and support local livelihoods.

Threats to human resilience

With pollution, the declining fisheries and the lack of economic welfare, the coastal population suffers disproportionately. The predicament of artisanal fishers for instance, is echoed by the leader of an artisanal fishers’ union who had just returned from a fishing trip

We left at 4 am [to go fishing] and looking at the fish we brought back after nearly 12 hours, I don't think it is up to 6 kg because if we want to divide the fish among us four, I don't think anyone can get more than 500 francs CFA [<US\$1]. You can see that this is just nothing. You know our most important thing is that we fish for subsistence but these days we can't even get that. The days when we can make enough catch, we can sell to women who also use that to do their business. But now there is just nothing.⁷⁹

The experience of this fisher is widely shared among other non-state actors interviewed for this study. For instance, the leader of a community-based fisheries organization laments:

yesterday our local fishermen came back with nothing, meanwhile some fish buyers who went and bought fish in Tiko port, where the industrial fishers offload their catch, they came with bags upon bags of our local fish [Sardinella]. They came with them in very big bulks that we cannot even begin to comment.⁷⁴

At the industrial fishing port of Tiko, where a Chinese fishing trawler had docked, I saw young men offloading its catch into trucks destined for export as well as many female fish buyers hovering around, some negotiating with the Chinese industrial fishers and their Cameroonian broker, trying to get some fish for their own businesses. Female fish traders who scramble for fish are vulnerable in such situations as they are forced into “sex for fish” trade negotiations and exposed to sexually transmitted diseases, which have been noted as a problem among fishers in WMD.⁸⁰

The declining fisheries resources mean artisanal fishers have to spend longer hours at sea, in deplorable working conditions and incurring larger costs through fuel consumption, thus increasing their debt burden as noted by the vice president of a semi-industrial fishers' union:

For us semi-industrial fishers, to go fishing you must have a fast boat requiring 130-140 litres of fuel. This can cost us about 150,000frs CFA [<200US\$] of fuel a day. And if you go fishing and don't get fish, there are problems. There are days or even months that you don't get any fish, hence it is difficult to support the people that you work with, since they have to feed, and pay housing. Hence all this problem comes back to owners of boats.⁸¹

With the increasing lack of fishing opportunities, some fisherfolk are using their skills and assets to engage in alternative livelihood opportunities such as smuggling immigrants, fuel smuggling, and drug trafficking.⁸² In addition, those artisanal fishers who have sought employment with industrial fishing companies are faced with terrible working conditions with no social security protection.⁶⁰

A traditional ruler notes that threats to fisheries resources – particularly from IUU fishing – is a gradual erosion of his subjects' “way of life.”⁸³ Indeed, most local inhabitants of the WMD involved in fishing were born, raised, and

live in these local fishing communities, making them part of a socio-cultural system that directs their behavior and gives sense to their lives. Disrupting such a way of life has far reaching consequences.

National Security concerns

The cumulative impact of IUU fishing and fisheries crime on the environment, economy, coastal resilience, and welfare shows they pose considerable national security concerns. Recent shifts in policy and practice that prioritizes a traditional military response to fisheries incidents (Table 2) is an indication of this concern. Talking to Navy and Delta BIR officers in WMD you can sense the seriousness with which they now place security buffers around coastal assets and infrastructures suspected criminals including fishers. According to a military officer:

This is for security. Because we have had attacks from people coming from Bakassi [peninsula] disguised as fishermen, who come to observe and to prepare an attack later. Hence this is just for security reasons, if not the risk for an attack will increase. If we do not regulate things like this, the enemies will infiltrate the fishermen, and this is what they do not tell you. Many now know what is happening but little talk against it. If you can imagine the fishermen located in Bakassi, traffickers and pirates have contacts with them and can infiltrate the ranks of fishermen and threatened them not to tell anyone anything. We are not to know that. Hence, we need to be very vigilant.⁸⁴

The Cameroon Navy's fear of the fisher-piracy nexus is a significant national security concern mindful of situations in neighboring Nigeria where fisher-folks in Niger Delta are engaged in armed robbery at sea and oil pipeline vandalism.²¹ The WMD shares a boundary with Niger Delta region and has been identified as the seedbed of maritime crime in Cameroon waters.⁸⁵ For instance, there was the seizure of 5 automatic weapons and ammunition from Nigerian flagged trawlers- "Olokun XIII," "Olokun VIII" and "Kulak X" and detention of 43 illegal immigrants.⁸⁶ The arms were reportedly destined for Ambazonia activists who since 2017, have been waging a separatist insurgency to break away from the Cameroonian state.²¹

Illegal fishing also breeds tension between Cameroon and other states. In January 2009, Cameroon Naval forces captured three Equatorial Guinean Navy officers in response to the latter capturing and detaining three Cameroonian fishermen in the Rio Campo border settlement for allegedly carrying out illegal fishing.⁸⁷ Also, similar tensions have been reported between Cameroon Gendarmes and Nigerian authorities for illicit fishing activities on the Bakassi peninsula.⁸⁸

Concerns for national stability also come from within Cameroon. In August 2007, artisanal fisherfolks in Limbe, began protesting to local state officials, expressing strong fears about the twin trawling practices of foreign industrial fishers, which they blame for depleting fish stock.⁸⁹ Their persistent

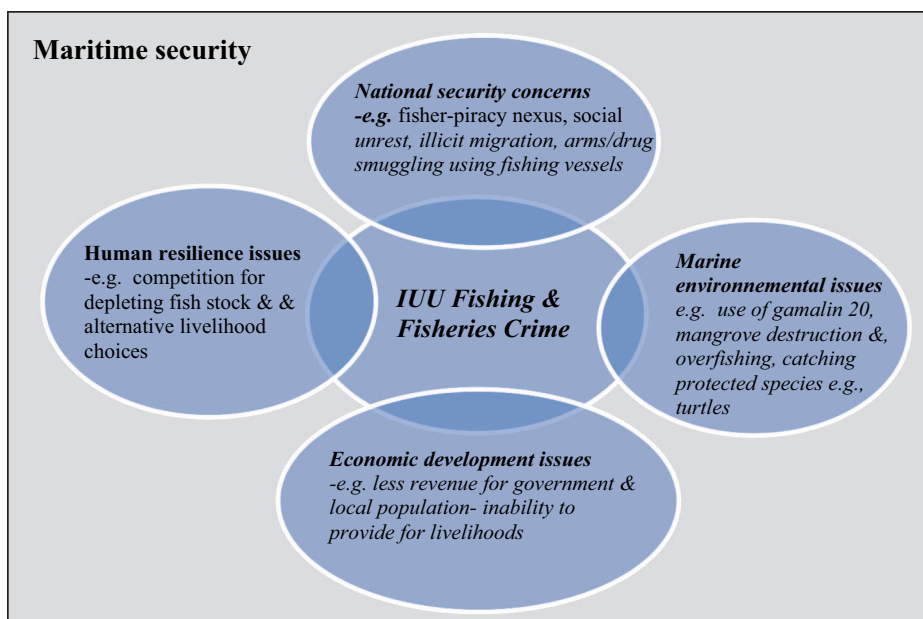


Figure 3. How IUU fishing and fisheries crime threatens Cameroon's maritime security (Source: Author).

complaints about industrial fishers' illegal activities, along with threats of public unrest, prompted the Cameroon's Prime minister to visit the city to ease tensions and promise more stringent fisheries regulations.⁵¹

Conclusion

A healthy fisheries sector is important for Cameroon's maritime security mindful of its wider (blue) economy and coastal welfare contribution. However, this research has shown that the fisheries sector is vulnerable to a myriad of IUU fishing and fisheries crime practices. The former encompasses the use of banned fishing gear, the violation of designated fishing zones, the use of toxic chemicals, the landing of juvenile species, transshipment at sea, the landing of catch in foreign ports, and generally poor regulation with an important new dimension involving the unregulated exploitation of fish bladder of some iconic species like giant Cameroon croaker. Fisheries crime practices on the other hand include those that are directly related to the act of fishing (fisheries-related crime e.g., corruption and document fraud) and those that are committed using the fisheries sector as cover (crimes associated with fisheries sector, e.g., drug trafficking, arms smuggling, and illegal immigration). (Figure 3) These practices and/or their

operational synergies are a threat to Cameroon's blue economy development, marine safety, ocean health and human and human resilience and by extension threaten national security.

Coastal inhabitants especially artisanal fisherfolk, suffer disproportionately as their livelihood options are compromised because of depleting fish stock, threatening food security and community way of life. Some fishers are left with few options but to engage in other activities such as drug, arms and fuel smuggling, and these further that further threaten maritime security.

Chapsos¹³, Bueger¹² and Okafor-Yarwood²¹ have emphasized the need to incorporate traditional and non-traditional threats in discussions maritime security and governance arrangements. In this regard, the engagement of Cameroon military actors in combatting transgressions in fisheries show threats from fisheries is now an important national security concern. However, the state-centric militarized response to issues related to IUU fishing and other criminal activities in the fisheries sector has done little to solve the problem. Engaging coastal communities especially fishers and other subnational stakeholders in intelligence-led efforts to identify, report and respond to acts of criminality across the land-sea nexus will help complement existing governance efforts.

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Acknowledgments

The author is grateful to all the anonymous reviewers and the editors for their comments, which have helped improve the manuscript. I would also like to thank all the respondents whose insights and collaboration helped shape the outcome of this study.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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