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# Small-scale fisheries, large-scale fisheries and fisheries governance in the Philippines

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**ABSTRACT**

This article investigates the intersections between two highly significant ocean policy processes: fisheries governance interventions for improved sustainability, and the relationship between small- and large-scale fishers. The focus is on how fisheries governance interventions interact with longstanding tensions between small- and large-scale fishers. The article draws on three examples of contemporary policy debates about fisheries governance in the Philippines: measures against illegal, unreported and unregulated (IUU) fishing, closed seasons, and initiatives to re-organise spatial regulations governing fishing access. The article shows how in each case, debates about fisheries governance cannot be separated from the relationships between small and large scale fishers. Small- and large-scale fishers are affected differently by each governance intervention, and responses to this differentiation subsequently influence governance outcomes. The article finds that a key concern for any fisheries governance intervention needs to be assessing the relationships between key stakeholders, how these relationships will be modified by any governance intervention, and how these relational dynamics are likely to affect governance outcomes.

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## 1. Introduction

Globally, governance initiatives to address problems of resource declines and to maximise social benefits from the oceans have expanded in scope and intensity over time – from the expansion of marine protected areas to the development of new market-based instruments (Campling & Colás, 2021; Kadfak et al., 2023; Lubchenco & Haugan, 2023). The result is that the livelihoods of fishers are increasingly shaped by governance institutions (Cohen et al., 2019; Jentoft et al., 2022; Satizábal et al., 2020; Vandergeest et al., 2015). Yet, in addition to the governance environment, the livelihoods of fishers have also long been influenced by conflicts between small-scale fisheries (SSF) and large-scale fisheries (LSF) (Bavinck, 2005; Fabinyi et al., 2022; Seto et al., 2023). This article investigates how these long-standing conflicts intersect with various forms of fisheries governance. The article does so via an analysis of three contemporary fisheries governance interventions in the Philippines, and how each intervention interacts with the pre-existing relationships between SSF and LSF: measures against illegal, unreported and unregulated (IUU) fishing, closed seasons, and initiatives to re-organise spatial regulations governing fishing access.

Much literature on the relationships between SSF and LSF characterises them in terms of conflict over fishery resources (e.g. Pomeroy et al., 2007). Some nation-states in the global South have responded to these conflicts by segregating SSF and LSF into separate spatial zones, giving SSF exclusive rights over inshore

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areas (Fabinyi et al., 2022; Seto et al., 2023). Beyond the issue of conflict over scarce material resources, other scholars have pointed to other important features of the SSF–LSF relationship. For example, Bavinck (2005) suggests that conflicts between SSF and LSF are not just about the distribution of material resources, but also about differing conceptions of marine tenure, while Seto et al. (2023) and Ayilu (2023) highlight the significance of active competition and exclusion over and above the issue of scarcity as a driver of conflict. While this literature has moved well beyond explanations of fisheries conflict as driven by resource scarcity alone (Finkbeiner et al., 2017; Penney et al., 2017), it is clear that conflict is still a major feature of SSF–LSF relationships in many parts of the world (e.g. Belhabib et al., 2020; Dahlet et al., 2021).

While conflicts between SSF and LSF in the global South have long been recognised and extensively discussed (Segi, 2014), Bavinck (2005) notes that policy concerns about unsustainable fishing have over time become more dominant and tended to take precedence in much academic and policy literature. Since 2005, the policy attention to fisheries sustainability has only continued to increase. While the approach of many governments to the regulation of fisheries was historically largely oriented around maximising production (Butcher, 2004), fisheries management measures have over time more actively regulated fishing access. Responding to declining fish stocks, governments have gradually scaled up the implementation of property regimes, access restrictions, marine protected areas, trade measures and other forms of fisheries management that constrain the activities of fishers (Bennett, 2018; Campling & Havice, 2014; Eder, 2005; Song et al., 2020). Most recently this has seen the development of management regimes under the rubric of the 'blue economy' (Jentoft et al., 2022; Satizábal et al., 2020).

The focus of this article is on the interaction of these two issues – how fisheries governance interacts with the longstanding challenge of contested relationships between SSF and LSF. The article highlights how the outcomes of fisheries governance for improved sustainability are strongly shaped by the relationship between SSF and LSF, and suggests how better recognition of this underlying relational dynamic may subsequently improve these outcomes. The article draws on a range of fisheries governance processes in the Philippines – a country with a high dependence on both SSF and LSF, and a history of innovative forms of ocean governance.

Section 2 sketches some of the key issues around the governance of SSF and LSF and the approach to analysis, while Section 3 provides a background to the roles of SSF and LSF in the Philippines. Section 4 then analyses three sets of fisheries governance processes in the Philippines that interact closely with the pre-existing relationships between SSF and LSF: measures against IUU fishing, closed seasons, and initiatives to re-organise spatial regulations governing fishing access.

## 2. SSF, LSF and the policy process

Critical approaches to fisheries governance have long observed that it is not a linear, technical process, where scientific inputs go into a policy which is then smoothly implemented, but takes place within a 'politicised environment' (Bryant & Bailey, 1997) where governance is highly contested (e.g. Walley, 2004). While many fisheries governance interventions remain focused on technical dimensions that tend to ignore social and political contexts (see critiques, e.g. Pinkerton & Davis, 2015), studies from well-being perspectives (Chaigneau et al., 2022) to political economy approaches (Campling & Colás, 2021) have shown how the contested relationships between differently positioned actors are a key driver of the ecological and social outcomes of these interventions. For example, when fishers are concerned more about inequality relative to other fishers than they are about the sustainability of fish stocks, resource conflict and ineffective governance ensue (Fabinyi et al., 2015). Similarly, forms of social differentiation related to class, gender and ethnicity within fishing communities strongly affect how the costs and benefits from fisheries governance are distributed (Eder, 2005). And relationships between fishers and state actors are fundamental to the legitimacy of governance measures (Jentoft, 2000). From this perspective, the relationships between key governance stakeholders are not just surface-level processes, but fundamental structures of social life that ultimately matter more for outcomes than the technical inputs of governance tools themselves (Harriss, 2009; Hulme, 2020).

The focus of this article is on the relationships between SSF and LSF. Two largely opposing narratives about the characteristics of SSF and LSF are prevalent in the literature. One stream of literature, informed largely by

the social sciences, tends to be more negative about LSF, and positive about SSF. It tends to highlight the negative environmental effects of LSF, the relatively per capita lower environmental impacts of SSF, and their positive social and economic contributions (see discussion in Johnson, 2006). Such a perspective has discussed the inequalities among subsidies offered to LSF and SSF (Schuhbauer et al., 2020), the differential impacts of new forms of regulation among the two sectors (Song et al., 2020), and documented the diverse social and economic linkages of SSF with broader society (Jentoft et al., 2022). In contrast, a second approach, informed largely by a neoclassical economic and modernisation perspective, highlights economic efficiency as a key difference between the two sectors (Cunningham et al., 2009; World Bank and FAO, 2009). It implies that SSF are less efficient, and that the way forward for fisheries is to generate more wealth from fewer, more efficient numbers of vessels and through rights-based fisheries management (World Bank and FAO, 2009). In their extreme forms, both perspectives can appear somewhat dogmatic. In the case of the first perspective, as with broader literature in political ecology in general, there can be a bias towards the local scale as a scale perceived to have more socially just outcomes (Brown & Purcell, 2005), and a vision of SSF as 'capital's other' (Bernstein, 2014). In the second perspective, there can be an emphasis on large-scale wealth generation that ignores inequality, distribution and the varied contributions SSF make in the context of livelihood vulnerability (Béné et al., 2010).

In contrast, the approach in this article is to begin by recognising that the policy process in specific contexts rarely maps onto straightforward narratives about the characteristics of particular patterns of resource use (Brosius, 1997). Instead, the policy process is composed of a multitude of interests, practices, motivations and actors (Filer et al., 2021; Shore and Wright 2003), and is an important driver of outcomes in its own right. In the Philippines, scholars have discussed the political economy of policy development in the Philippines (Nem Singh & Camba, 2020; Raquiza, 2013), noting the role of key powerbrokers and 'patrons' in and outside of government, and how these lead to what Teehankee and others have called a situation of 'defective democracy' (Teehankee & Calimbahin, 2020). Others have highlighted the dynamic role of civil society and communities in the country, especially in debates about fisheries and natural resource management (e.g. Austin & Eder, 2007), while others have emphasised the agency of the rural poor (Kerkvliet, 1990). While these are extensive and complex bodies of literature, the point relevant to fisheries governance here is that policymaking and implementation in the Philippines – including for fisheries – is a highly contested, messy process that constitutes a critical variable when assessing outcomes. From this perspective, policymaking can be characterised less as a process of scientific input into rational governance over environmental resources, and more as a series of conjunctures where contestation among various interests and actors unfolds (Filer et al., 2021). As Bebbington notes, a policy is the 'frozen product of politics, a product that is itself political and has effects that are also political' (Bebbington, 2015, p. 199).

Adopting this approach to the analysis of the policy process, the article is a critical review (Fabinyi et al., 2022) that draws on and interprets existing evidence relating to the development and implementation of selected cases of fisheries governance processes in the Philippines. This primarily involved web searches of media reports, opinion pieces, government announcements, as well as relevant academic literature. When analysing the cases, the focus was to situate concrete policy developments (inception, implementation and public debate) within the differentiated effects they have had on SSF and LSF. My interpretation of these reports also draws on experiences of engagement with civil society, the private sector and government stakeholders in fisheries policies in the Philippines for the past 18 years. I examine three policy debates about the governance of fisheries in the Philippines to critically assess how they interact with pre-existing, ongoing tensions between SSF and LSF. While there are many debates about fisheries policy in the Philippines – from their role in food security, to fish trade, to their role in supporting livelihoods – I focus on three significant examples of fisheries governance that broadly aim to both improve stock sustainability and increase production: measures against illegal, unreported and unregulated (IUU) fishing, closed seasons, and initiatives to re-organise spatial regulations governing fishing access. In doing so, the objective is not to holistically analyse the full details of fisheries policies in the country, or the entirety of the voluminous debates that frame them, but to highlight key points of connection between fisheries governance and the relationships between SSF and LSF. I demonstrate how in addition to their specific objectives, all of the policy initiatives are in practice about regulating and managing the relationships between the SSF and LSF sectors.

## 3. SSF and LSF in the Philippines

Defining SSF and LSF has long been a fraught task with multiple considerations (Johnson, 2006; Smith & Basurto, 2019). In the Philippines, the job is easier because there is a government-mandated distinction in the national Fisheries Code between 'municipal' fishers who have exclusive use of municipal waters, which are those within 15 km from the coastline. 'Commercial' fishers are those greater than 3 gross tons, and are only allowed to fish in commercial waters beyond 15 km from the coastline. While this terminology downplays the fact that many municipal fisheries products are also commercially sold, for the rest of the article the terms municipal and commercial are used interchangeably with SSF and LSF.

Both SSF and LSF have extensive histories in the Philippines. Beyond fishing for subsistence, fishers have long traded with farmers throughout the region, and urbanisation subsequently acted as a key driver of the expansion of fisheries, including the development of specialised fishing communities (Spoehr, 1980, p. 25, 1984). Between 1845 and 1945, fish was the main *ulam* (viand, or dish served with rice) for the vast majority of residents in Manila, and technological change proceeded in response, first through the use of large fish corrals (*baklad*), and then through the use of Japanese beam trawls, purse seining vessels, liftnets and other vessels (Doeppers, 2016, p. 161; Spoehr, 1980). The post-World War II period, in particular, was marked by a considerable increase in industrial fishing activity (Butcher, 2004). SSF have also continued to evolve, incorporating new technologies such as motorised vessels and freezing, and targeting new species and products in response to changing markets.

Currently, fishery products provide a significant component of the diets of Filipinos, constituting approximately 12% of their total food intake, approximately 34 kg per year (BFAR, 2021, p. xxi). SSF are marked by considerable variation, typically involving multiple gears and targeting mixed species. The most common gears include hook and line, various forms of gillnetting, diving, and gleaning. SSF livelihoods are typically flexible according to economic circumstances, seasonal and weather conditions can be part-time, full-time or seasonal, and are frequently combined with additional income-generating activities. The fisheries tend to be owner-operated with relatively small numbers of crew, who are often kin and/or neighbours. Much of the catch of SSF is typically still sold in markets, however, portions of it are also usually consumed by fishing households (Ferrer & Monteclaro, 2023).

In contrast, LSF tend to operate more on corporate principles, with different profit-sharing systems, increased specialisation of roles, and larger numbers of crew that are employed across a wider area (Spoehr, 1984). Some of the more significant LSFs in terms of employment and production volumes include the tuna industry (generating approximately 38% of the total volume and 46% of the total value of LSF in 2020-2021), centred in General Santos City, and the sardine industry in the Zamboanga peninsula (29% and 12% respectively) (BFAR 2022a) (see Figure 1). Fishers overall are on average among the poorest sectors in the country (Department of Agriculture, FAO and Rare Philippines, 2023). SSF contribute somewhat more than LSF in terms of volume, and considerably more in terms of value (Table 1). While employment figures for SSF are notoriously difficult to calculate, including in the Philippines, SSF employ far more people than LSF (MRAG Asia-Pacific, 2022, pp. 12–16).

## 4. Fisheries governance in the Philippines

Governance of municipal fisheries is decentralised, founded in the Local Government Code (LGU) of 1991 and the Fisheries Code of 1998. Control over fisheries in municipal waters is managed by local government units (LGUs), at the municipal or city level. In contrast, commercial fisheries are managed at the national

**Table 1.** Volume and value of LSF and SSF in the Philippines, 2021.

| Sector | Production volume, MT (2021) | Percentage (volume) | Production value, '000 PHP (2021) | Percentage (value) |
|---|---|---|---|---|
| LSF | 870,038.30 | 43 | 61,819,922.74 | 36 |
| SSF | 1,131,907.31 | 57 | 112,059,949.41 | 64 |

Source: BFAR (2022a).


**Figure 1.** Map of the Philippines.

level through the Bureau of Fisheries and Aquatic Resources (BFAR). There is a long history of civil society and foreign, donor-funded projects in fisheries governance in the Philippines (Courtney & White, 2000), and the country has been a pioneer in innovative forms of marine governance, notably including marine protected areas (Horigue et al., 2012), and of co-management (Evans et al., 2011).

Numerous studies have identified the sustainability of fisheries in the Philippines as a key challenge (e.g. Anticamara & Go, 2016). Among the key concerns include overcapacity in terms of numbers of vessels and fishers, the use of active gears in inshore waters, the incursion of LSF into municipal waters, the use of destructive fishing methods such as dynamite and cyanide, and marine pollution caused by overdevelopment. Subsequently, volume from capture fisheries production is declining – these include numerous fisheries in specific municipalities and provinces across the country, and the total volume of both commercial and municipal fisheries over the last decade (Anticamara & Go, 2016; BFAR, 2022a, 2022b; Muallil et al., 2014). Consequently, the fish production shortages have led to an increasing role for fish imports, and efforts to generate increased fish production through mariculture (BFAR, 2022b). As part of efforts to sustain domestic capture fisheries, governments and government agencies have also been implementing a series of fisheries governance interventions with the linked objectives of improving fish stock sustainability and increasing production. This section describes and discusses three such initiatives: efforts targeted at IUU, closed seasons, and modifications of spatial rules around fishing access.

### 4.1 Measures against illegal, unregulated and unreported fishing

Scholars have highlighted the diverse forms that IUU can take, proposed a range of means to address the problem, and critically assessed the ways in which narratives of IUU are adopted (Kadfak et al., 2023). Anti-IUU initiatives and definitions in the Philippines encompass a range of activities. However, a common feature is the way in which they affect SSF and LSF in different ways, subsequently sparking contestation between the two sectors.

A recent report by USAID estimated the scale of illegal fishing in the Philippines to be between 516,000 and 766,000 metric tons (MT)/year (Coastal Resources Center, 2021, p. 11), emphasising the high degree of uncertainty surrounding this figure. While this estimate includes well-recognised forms of IUU – destructive fishing techniques such as blast and cyanide fishing, and spatial incursions such as international vessels poaching in domestic waters – it also includes a range of activities associated with SSF. SSF are in practice frequently unreported and unregulated due to their geographical remoteness and fragmentation, and the lack of effective government monitoring and regulatory systems in locations where they are prevalent (Grantham et al., 2022; Song et al., 2020). This means that they can become potentially vulnerable to anti-IUU efforts that equate illegal fishing with unreported or unregulated fishing (Song et al., 2020).

In response to trade measures instituted by the EU against IUU where the Philippines was threatened with import restrictions, the Philippines amended its Fisheries Code in 2015 (Espenilla, 2019). In connection with these major legislative changes, there have been a series of recent efforts in government and civil society to address IUU. Much of these efforts are focused on monitoring fisheries to make them more visible and transparent. For example, USAID implemented a major initiative aiming to improve the traceability of tuna fisheries in Mindanao (Figure 1) (USAID Oceans and Fisheries Partnership, 2017), and more recently has worked on the implementation of a tool to assist LGUs in identifying and responding to illegal fishing activities in their areas (I-FIT, 2023). As part of the effort to reduce IUU, in 2019 the BFAR legislated Fisheries Management Areas (FMAs) via Fisheries Administrative Order (FAO) 263. Based on the principles of an ecosystem approach to fisheries management, the FMAs aimed to incorporate management based on the range and distribution of fish stocks as opposed to political or administrative boundaries alone. Philippine waters were divided into 12 FMAs across the country, each of which would need to have a management board created from a range of stakeholders. Advocates of the FMA system see it as a useful means to promote cooperation between the various stakeholders, including in monitoring and information sharing, and thereby reduce the incidences of illegal fishing.

One of the most commonly observed and well-documented illegal fishing practices in the Philippines is that of LSF incursion into municipal waters (Russell & Alexander, 2000). The civil society organisation Karagatan Patrol uses publicly available satellite data, for example, to track lights used by commercial fishing vessels. In many months of the year, it estimates the presence of several thousand boats inside municipal waters

(Karagatan Patrol, 2023). Particularly affected provinces are Palawan, Quezon in Luzon, Masbate in the Visayas, Sulu and Zamboanga del Sur in Mindanao (Figure 1).

Because of this ongoing concern about commercial fishing intrusion into municipal waters, a key debate that has dominated the Philippines fisheries governance sector in recent months and years has been the introduction of Vessel Monitoring Systems (VMS), which specifically aimed to address this challenge. In 2020, BFAR issued FAO 266, which mandated the use of VMS for all commercial fishing vessels in order to better track their movements, including into municipal waters. As the SSF activist group Pamalakaya noted:

> The FAO 266 is a welcome measure to regulate the unsustainable and often destructive method of fishing of commercial vessels. Operated by big fishing firms, these commercial vessels are exhausting and exploiting the fishery and marine resources in our seas. Commercial fishing vessels usually swarm the 15-kilometer municipal waters, out-competing and overwhelming the traditional and backward fishing methods of small fishers. (Business Mirror, 2023)

However, the FAO then endured a series of legal challenges by commercial fishing companies, who claimed that VMS would violate their privacy and trade secrets. The FAO was declared invalid by a court in Malabon in 2021, and between 2021 and 2023 was subject to various forms of legal contestation. In March 2023, the Executive Secretary of the Philippines (part of the President's administration) issued a memorandum directing government agencies to pause implementation of the FAO, pending a decision by the Supreme Court. One of the commercial fishing company directors subsequently noted that this was 'a bright move as it would definitely boost the country's fish production, which is important in attaining food security' (CNN Philippines, 2023), while civil society organisations strongly criticised the move (e.g. Business Mirror 2023; Eisma-Osorio, 2023). However, just months later in June 2023, the President directed the BFAR to implement it (Presidential Communications Office 2023). This led to claims from a range of commercial fishing organisations about the negative impacts that would ensue. The Alliance of Philippine Fishing Federations Inc. claimed that it could 'wipe out the commercial fishing industry, affecting food security as well as employment' (PhilStar, 2023), while the Inter-Island and Deep Sea Fishing Association claimed that '[n]o commercial fishing vessel will continue to operate if this regulatory measure is enforced. Many, if not all, commercial fishers will stop trawling the sea, and this will mean a shortage of fish. A shortage of fish will cause an increase in prices' (Romero, 2023).

In contrast to the attempts to force LSF to use VMS, similar efforts at increasing the visibility of SSF are far less strict. While there are risks to SSF from the IUU discourse as mentioned earlier, and while there is a boat registration system to encourage municipal fishers to register their vessels, it remains voluntary and patchily implemented across the country, leading to the uptake of only 53–70% (Coastal Resources Center 2021). In this way, the debate about IUU in the Philippines has effectively turned into a debate about how to best regulate the commercial fishing sector, and to protect the exclusive access rights of SSF.

### 4.2. Closed seasons

Closed seasons are another important fisheries management measure that has been given renewed momentum over the last decade via the implementation of seasonal closures for two nationally significant fisheries: sardines, herrings and mackerel in the Visayan Sea; and sardines in the Zamboanga Peninsula (Figure 1). In both cases, the closed season was filtered through the existing institution of SSF–LSF relationships.

In the case of the Visayan Sea seasonal closure, while forms of closure had been formally present since 1939, in 2013 BFAR issued FAO 167, which formed the legal basis to strictly implement a closure from mid-November to mid-March for sardines, herrings and mackerel. However, the implementation of the closure was very unclear, and interpreted in various ways among stakeholders, and across the different islands affected by the closure (Ungkakay-Bagsit et al., 2023). A key area of contention was whether or not the closure should be implemented in commercial waters only or also in municipal waters. As Ungkakay-Bagsit (2020, p. 122) noted, ' [W]hile the SFC technically applies to both commercial and municipal fishing boats, the LGUs surrounding the Visayan Sea have the prerogative whether to implement it or not in their respective municipal waters'. This meant that in practice, the closed season was implemented across the municipalities in different

ways (Ungkakay-Bagsit et al., 2023, p. 12). The predictable result in areas where the closure was strongly enforced on municipal fishers as well as commercial fishers was negative social impacts on livelihoods, due to their inability to generate income during the closure (Napata et al., 2020; Ungkakay-Bagsit, 2020, p. 175 and 176). Additionally, there were varying levels of enforcement against commercial fisheries, for example fish that were targeted by the closure (i.e. sardines, herrings and mackerel) were commonly seen at local markets, landed by commercial fishers. The varying forms of enforcement led to significant resentment, and allegations of corruption (Ungkakay-Bagsit, 2020, pp. 149–156).

The second closed season that generated distinct responses among the commercial and municipal sectors – in contrasting ways to the previous example – was for the sardine fishery in Zamboanga Peninsula (Figure 1). Responding to significant declines in overall harvest, a closed season for 3 months of the year was established in 2011 through a Joint Administrative Order from the Department of Agriculture and the Department of Interior and Local Government, which was reinforced by an FAO from the BFAR in 2014. Initial confusion over the spatial scope of the laws – i.e. whether they also covered municipal waters – led 5 of 18 municipalities in Zamboanga del Norte province to not enforce the closed season in their municipal waters (Brillo et al., 2016, p. 10). However, the closed season targets the use of specific gears which are largely used by commercial fishers, which meant that SSF were not seriously affected and the incomes of some municipal sardine fishers actually increased (Rola et al., 2018). In contrast, the incomes of commercial fishworkers were negatively affected during the closure. However overall, the closed season for sardine fisheries in Zamboanga was viewed by many scientists and policymakers as an ecological and economic success (Brillo et al., 2016, 2019; Rola et al., 2018).

While the closed seasons had a range of objectives, therefore, an important feature of the outcomes has been their differential impacts on SSF and LSF – contestation and conflict in the case of the Visayan Sea, and impacts largely on LSF alone in the Zamboanga Peninsula.

### 4.3 Changes to fishing access

In addition to policies that are aimed at using fisheries management tools to increase stock sustainability and reduce illegal fishing, a related set of initiatives has aimed to increase production through modifying existing access rights among LSF and SSF, in essence creating opportunities for commercial fishers to fish in municipal waters.

Under BFAR's Big Brother- Small Brother partnership (BBSB), small (3.1–20 gross tones) and medium (20.1–150 gross tons) scale commercial fishing vessels will be allowed to operate between 10.1 and 15 kilometres from the shoreline under specific circumstances. The logic underlying the programme is that in a context of rising fish imports and fish scarcity, and a subsequent need to improve fish production, this programme could allow commercial fishers to access the relatively untapped waters between 10-15 km that are in practice beyond the reach of most SSF. Under the framework of this partnership, BFAR has begun to implement it with agreements with specific LGUs around the country, and to conduct stakeholder dialogues. For example, in Zamboanga Sibugay (Mindanao) in 2021, a Memorandum of Understanding was reached where commercial fishers would be allowed to fish in the 10-15 km zone, and would be obliged to provide part of their catch to a municipal fisheries organisation, which could use this catch as feed for grouper mariculture (BFAR Region 9, 2021).

While the BBSB programme is still in piloting stages, and the way in which it is implemented is varying in different contexts and locations, it has been critiqued as opening up municipal waters to further exploitation without due scientific diligence (Lagniton, 2022). As one editorial noted, 'What kind of brotherhood is this? The big commercial vessels enter the coastal waters to grab the fish that should be caught by the small fishermen' (Opinyon, 2022). (see Figure 2).

A related initiative was a proposal introduced by a Congressman from Cebu in 2020, which attempted to amend the Fisheries Code to allow small- and medium-scale commercial fishing within municipal waters in cases where these waters do not extend beyond 10.1 km (Republic of the Philippines House of Representatives, 2020). This bill aimed:


**Figure 2.** Cartoon depicting the effects of BFAR's Big Brother-Small Brother program on the relationships between LSF and SSF.
Source: Opinyon (2022).

> to amend the Fisheries Code of 1998 to expand the possible area of operations of small and medium commercial fishing vessels, as defined by the law, within municipal waters … Amending the law to include an exception, as can be found hereunder, ensures that the various economic gains brought about by fishing may be experienced by more local government units, fishers, and families nationwide. This pandemic has debilitated many industries and has left many workers destitute. All efforts must be exerted towards recovering from this crippling period of our nation's history.

However, the introduction of this bill proved to be highly controversial. Civil society organisations campaigned strongly against it, including the development of a manifesto that was signed by 1665 fisherfolk groups across the country (Manifesto Opposing House Bill 7853, 2021). The manifesto pointed out bluntly that 'Small-scale fishers and commercial fishers cannot co-exist as it will aggravate the built-in conflict between the two sectors'. Following months of intense campaigning, the House Bill did not pass. While in this instance the issue seems to have been clearly resolved straightforwardly in the favour of SSF stakeholders, the episode highlights again the significance and intensity of the LSF-SSF conflict, and that longstanding measures to segregate SSF and LSF are still subject to ongoing debate.

## 5. Discussion

Over time, fisheries governance for improved sustainability has expanded to progressively shape the livelihoods of fishers (Bennett, 2018; Cohen et al., 2019; Satizábal et al., 2020). This article has shown how, despite the increasing attention in policy and academic literature paid to overfishing and subsequent efforts to govern fisheries, these policies intersect with longstanding relationships between SSF and LSF that are still highly significant. In the specific cases discussed in this article in the Philippines, initiatives to crack down on IUU, policies to implement closed seasons, and policies to spatially regulate fisheries all became spheres of contestation between SSF and LSF. In the same way that new efforts at management or conservation are inevitably filtered through existing social structures of class, gender and ethnicity in coastal communities (Eder, 2005), relationships between SSF and LSF are essentially another key social institution that needs to be taken into account when assessing how policy outcomes are differentially distributed among diverse social groupings.

More country-specific studies are needed to better understand the intersection between fisheries governance and the relationships between SSF and LSF. In the Philippines, these relationships may be especially visible because of how fishing zones are specifically allocated in law between SSF and LSF, via the creation of municipal waters as mandated in the Local Government Code and the Fisheries Code. This formal allocation in law means that it becomes a central reference point for any new fisheries governance policy. It also means that implementation of specific policies is highly varied among municipalities who have different levels of interests and capacities. As such, all fisheries policies end up becoming manifestations of broader tensions between the local and national government (Fortnam et al., 2022). The specific policy challenges of municipal waters in the Philippines therefore also go to the broader challenge of how to effectively manage decentralisation in the country, and the extent to which this model is capable of effectively addressing the economic and ecological challenges faced by the country. A 2018 ruling from the Supreme Court that was implemented in 2022, which allocated a greater share of revenue to LGUs, will be a key factor in this debate in the future (Malayang, 2021). Within this dynamic institutional context, some authors have also called for re-classifications of how SSF and LSF are categorised in the Philippines (Spoehr, 1984; Ungkakay-Bagsit, 2020).

However, the focus of the discussion here is on the broader implications of a perspective that sees relations between SSF and LSF as a key feature of fisheries governance implementation. While the contours of these conflicts may be particularly sharp in the Philippines because of its decentralised system of fisheries governance, numerous studies from other parts of the world (e.g. Belhabib et al., 2020; Dahlet et al., 2021) suggest that the Philippine experience is far from unique. One conclusion that could follow from this perspective might be that it highlights the ongoing marginalisation of SSF, and the need to more effectively advocate for their interests. However, more broadly is that such a perspective highlights potential flashpoints in the implementation of *any* fisheries governance measure. When SSF-LSF tensions erupt, it is likely to reduce the capacity for effective implementation of new measures. It highlights that a key concern for any fisheries governor or

policymaker needs to be on assessing the relationships between key stakeholders, and how these relationships will be altered or modified by any governance intervention.

This approach would go beyond existing approaches to monitoring of social and economic impacts of new governance measures, to explicitly focus on the relational dynamics. With a concrete recognition of the potential changes to stakeholder relationships – whether between SSF and LSF, or between other types of fishers – fisheries managers and policymakers may be able to better anticipate their effects and subsequently improve the design of policies to better account for them. Such an approach means that fisheries managers and policymakers may be able to be more realistic about what sorts of measures may be more or less possible in any given context. In the same way that fish stocks are ecologically modelled, or that job losses, wages, and maximum economic yield are economically modelled, stakeholder relationships may benefit from a form of 'political modelling' that analyses policy processes and political dynamics among key stakeholder relationships. The particular social and political dynamics that drive these relationships are likely to vary considerably across different contexts, highlighting the need for fisheries governance scholars and practitioners to engage in a form of grounded engagement with the policy process wherever they work.

In conclusion, this article has demonstrated the continuing relevance of the longstanding and contested relationships between SSF and LSF. While fisheries governance is progressively influencing fishing livelihoods across the globe, this process is never neutral, or a linear, solely technical process. Instead, it is always refracted through the lens of the existing relationships among various fisheries stakeholders, such as those between SSF and LSF – subsequently shaping governance outcomes. Understanding how these pre-existing relationships may be altered by any governance intervention therefore becomes a priority for improved understanding of environmental policy and planning outcomes.

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## References

Department of Agriculture, FAO and Rare Philippines. (2023). Report on the status of artisanal fisheries in the Philippines.

Anticamara, J. A., & Go, K. T. (2016). Spatio-temporal declines in Philippine fisheries and its implications to coastal municipal fishers' catch and income. *Frontiers in Marine Science*, *3*, 21. doi:10.3389/fmars.2016.00021

Austin, R. L., & Eder, J. F. (2007). Environmentalism, development, and participation on Palawan Island, Philippines. *Society & Natural Resources*, *20*(4), 363–371. doi:10.1080/08941920601161379

Ayilu, R. (2023). The blue economy in Ghana: Industrialisation, contestation and impacts on small-scale fisheries [PhD thesis]. University of Technology Sydney.

Bavinck, M. (2005). Understanding fisheries conflicts in the south—a legal pluralist perspective. *Society & Natural Resources*, *18*(9), 805–820. doi:10.1080/08941920500205491

Bebbington, A. (2015). At the boundaries of la política: Political ecology, policy networks and moments of government. In T. Perreault, G. Bridge, & J. McCarthy (Eds.), *The Routledge handbook of political ecology* (pp. 198–208). Routledge.

Belhabib, D., Cheung, W. W., Kroodsma, D., Lam, V. W., Underwood, P. J., & Virdin, J. (2020). Catching industrial fishing incursions into inshore waters of Africa from space. *Fish and Fisheries*, *21*(2), 379–392. doi:10.1111/faf.12436

Béné, C., Hersoug, B., & Allison, E. H. (2010). Not by rent alone: Analysing the pro-poor functions of small-scale fisheries in developing countries. *Development Policy Review*, *28*(3), 325–358. doi:10.1111/j.1467-7679.2010.00486.x

Bennett, N. J. (2018). Navigating a just and inclusive path towards sustainable oceans. *Marine Policy*, *97*, 139–146. doi:10.1016/j.marpol.2018.06.001

Bernstein, H. (2014). Food sovereignty via the 'peasant way': A sceptical view. *The Journal of Peasant Studies*, *41*(6), 1031–1063. doi:10.1080/03066150.2013.852082

BFAR. (2022a). Comprehensive national fisheries industry development plan (2021–2025).

BFAR. (2022b). Philippine fisheries profile. https://www.bfar.da.gov.ph/media-resources/publications/archives-philippine-fisheries-profile/

BFAR Region 9. (2021). MOA signed for 'big brother-small brother' partnership, a triumphant first in the region. https://m.facebook.com/permalink.php?story_fbid=4273367112758510&id=614458815316043

Brillo, B. B. C., Elazegui, D., Cervantes, C., & Rola, A. (2016). Assessing the formulation and implementation of the closed fishing season policy for sardines in Zamboanga Peninsula, Philippines. *Philippine Journal of Science*, *145*(4), 395–404.

Brillo, B. B. C., Jalotjot, H. C., Cervantes, C. C., & Rola, A. C. (2019). Impact on income and livelihood of fisheries workers: Closed fishing season policy for sardines in Zamboanga Peninsula, Philippines. *Journal of Coastal Conservation*, *23*(6), 1057–1067. doi:10.1007/s11852-019-00713-y

Brosius, J. P. (1997). Endangered forest, endangered people: Environmentalist representations of indigenous knowledge. *Human Ecology*, *25*(1), 47–69. doi:10.1023/A:1021983819369

Brown, J. C., & Purcell, M. (2005). There's nothing inherent about scale: Political ecology, the local trap, and the politics of development in the Brazilian Amazon. *Geoforum; Journal of Physical, Human, and Regional Geosciences*, *36*(5), 607–624.

Bryant, R. L., & Bailey, S. (1997). *Third world political ecology*. Routledge.

Business Mirror. (2023). Editorial: How commercial fishing is killing our small fishers. (https://businessmirror.com.ph/2023/06/15/how-commercial-fishing-is-killing-our-small-fishers/)

Butcher, J. G. (2004). *The closing of the frontier: A history of the marine fisheries of Southeast Asia C. 1850–2000*. Institute of Southeast Asian Studies.

Campling, L., & Colás, A. (2021). *Capitalism and the sea: The maritime factor in the making of the modern world*. Verso Books.

Campling, L., & Havice, E. (2014). The problem of property in industrial fisheries. *The Journal of Peasant Studies*, *41*(5), 707–727. doi:10.1080/03066150.2014.894909

Chaigneau, T., Coulthard, S., Daw, T. M., Szaboova, L., Camfield, L., Chapin, I. I. I., Stuart Chapin IIIF., Gasper, D., Gurney, G. G., Hicks, C. C., Ibrahim, M., James, T., Jones, L., Matthews, N., McQuistan, C., Reyers, B., & Brown, K. (2022). Reconciling well-being and resilience for sustainable development. *Nature Sustainability*, *5*(4), 287–293. doi:10.1038/s41893-021-00790-8

CNN Philippines. (2023). Fishing group welcomes suspension of vessel monitoring. http://www.cnnphilippines.com/news/2023/4/10/suspension-commercial-fishing-vessels-suspension.html

Coastal Resources Center. (2021). Quantifying the prevalence and impact of illegal, unreported and unregulated fishing in the Philippines workshop report. USAID Fish Right Program. Narragansett, RI: Coastal Resources Center, Graduate School of Oceanography, University of Rhode Island. 32pp.

Cohen, P. J., Allison, E. H., Andrew, N. L., Cinner, J., Evans, L. S., Fabinyi, M., Garces, L. R., Hall, S. J., Hicks, C. C., Hughes, T. P., Jentoft, S., Mills, D. J., Masu, R., Mbaru, E. K., & Ratner, B. D. (2019). Securing a just space for small-scale fisheries in the blue economy. *Frontiers in Marine Science*, *6*, 171. doi:10.3389/fmars.2019.00171

Courtney, C., & White, A. T. (2000). Integrated coastal management in the Philippines: Testing new paradigms. *Coastal Management*, *28*(1), 39–53. doi:10.1080/089207500263639

Cunningham, S., Neiland, A. E., Arbuckle, M., & Bostock, T. (2009). Wealth-based fisheries management: Using fisheries wealth to orchestrate sound fisheries policy in practice. *Marine Resource Economics*, *24*(3), 271–287. doi:10.1086/mre.24.3.42629655

Dahlet, L. I., Himes-Cornell, A., & Metzner, R. (2021). Fisheries conflicts as drivers of social transformation. *Current Opinion in Environmental Sustainability*, *53*, 9–19. doi:10.1016/j.cosust.2021.03.011

Doeppers, D. F. (2016). *Feeding Manila in peace and war, 1850–1945*. University of Wisconsin Press.

Eder, J. F. (2005). Coastal resource management and social differences in philippine fishing communities. *Human Ecology*, *33*(2), 147–169. doi:10.1007/s10745-005-2430-Z

Eisma-Osorio, R.L. (2023). Lawlessness in oceans imperils country's food security and lives of poor artisanal fisherfolk. https://www.rappler.com/voices/thought-leaders/opinion-lawlessness-oceans-imperils-food-security-lives-poor-artisanal-fisherfolk/

Espenilla, J. J. F. (2019). Phillipines. *Asia-Pacific Journal of Ocean Law and Policy*, 4(1), 97–102. doi:10.1163/24519391-00401008

Evans, L., Cherrett, N., & Pemsl, D. (2011). Assessing the impact of fisheries co-management interventions in developing countries: A meta-analysis. *Journal of Environmental Management*, *92*(8), 1938–1949. doi:10.1016/j.jenvman.2011.03.010

Fabinyi, M., Belton, B., Dressler, W. H., Knudsen, M., Adhuri, D. S., Aziz, A. A., Akber, M. A., Kittitornkool, J., Kongkaew, C., Marschke, M., Pido, M., Stacey, N., Steenbergen, D. J., Vandergeest, P., & Vandergeest, P. (2022). Coastal transitions: Small-scale fisheries, livelihoods, and maritime zone developments in Southeast Asia. *Journal of Rural Studies*, *91*, 184–194. doi:10.1016/j.jrurstud.2022.02.006

Fabinyi, M., Foale, S., & Macintyre, M. (2015). Managing inequality or managing stocks? An ethnographic perspective on the governance of small-scale fisheries. *Fish and Fisheries*, *16*(3), 471–485. doi:10.1111/faf.12069

Ferrer, A. and Monteclaro, H. (2023). *Portrait of small-scale fishers in the Philippines.* Too Big to Ignore. https://tbtiglobal.net/new-e-book-release-portrait-of-small-scale-fishers-in-the-philippines%EF%BF%BC%EF%BF%BC/

Filer, C., Gabriel, J., & Allen, M. G. (2021). Discombobulated actor-networks in a maritime resource frontier. *Pacific Affairs*, *94*(1), 97–122. doi:10.5509/202194197

Finkbeiner, E. M., Bennett, N. J., Frawley, T. H., Mason, J. G., Briscoe, D. K., Brooks, C. M., Ng, C. A., Ourens, R., Seto, K., Switzer Swanson, S., Urteaga, J., & Crowder, L. B. (2017). Reconstructing overfishing: Moving beyond Malthus for effective and equitable solutions. *Fish and Fisheries*, *18*(6), 1180–1191. doi:10.1111/faf.12245

Fortnam, M., Evans, L., Ayu, A. A. M., Bastian, L., Chaigneau, T., Creencia, L., Goh, H. C., Gonzales, B., Madarcos, K., Maharja, C., Mohd Iqbal, M., Ngoc Le, T., Praptiwi, R. A., Sugardjito, J., Van Nguyen, Q., & Syazana, W. W. N. (2022). Polycentricity in practice: Marine governance transitions in Southeast Asia. *Environmental Science & Policy*, *137*, 87–98. doi:10.1016/j.envsci.2022.08.010

Grantham, A., Pandan, M. R., Roxas, S., & Hitchcock, B. (2022). Overcoming catch data collection challenges and traceability implementation barriers in a sustainable, small-scale fishery. *Sustainability*, *14*(3), 1179. doi:10.3390/su14031179

Harriss, J. (2009). *Bringing politics back into poverty analysis*. *Poverty Dynamics*, 205-24.

Horigue, V., Aliño, P. M., White, A. T., & Pressey, R. L. (2012). Marine protected area networks in the Philippines: Trends and challenges for establishment and governance. *Ocean & Coastal Management*, *64*, 15–26. doi:10.1016/j.ocecoaman.2012.04.012

Hulme, M. (2020). One earth, many futures, no destination. *One Earth*, *2*(4), 309–311. doi:10.1016/j.oneear.2020.03.005

I-FIT. (2023). Philippine IUU fishing index and threat assessment tool. https://sites.google.com/fishright.crcuri.org/ifit/home?authuser=0

Jentoft, S. (2000). Legitimacy and disappointment in fisheries management. *Marine Policy*, *24*(2), 141–148. doi:10.1016/S0308-597X(99)00025-1

Jentoft, S., Chuenpagdee, R., Said, A. B., & Isaacs, M. (Eds.). (2022). *Blue justice: Small-scale fisheries in a sustainable ocean economy* (Vol. 26). Springer Nature.

Johnson, D. S. (2006). Category, narrative, and value in the governance of small-scale fisheries. *Marine Policy*, *30*(6), 747–756. doi:10.1016/j.marpol.2006.01.002

Kadfak, A., Barclay, K., & Song, A. M. (2023). *EU trade-related measures against illegal fishing: Policy diffusion and effectiveness in Thailand and Australia*. Routledge.

Karagatan Patrol. (2023). Karagatan Patrol Data Viz – VIIRS boat detection inside municipal waters. http://karagatanpatrol.org/analytics_munwat/

Kerkvliet, B. J. (1990). *Everyday politics in the Philippines: Class and status relations in a central luzon village*. University of California Press.

Lagniton, L. (2022). Reforms in Philippine fisheries delayed again. https://maritimefairtrade.org/reforms-philippine-fisheries-delayed-again/

Lubchenco, J., & Haugan, P. M. (2023). *The blue compendium: From knowledge to action for a sustainable ocean economy*. Springer Nature.

Malayang III, B. S. (2021). On the archipelagic ecology and the economy of the Philippines. *Asian Journal of Agriculture and Development*, *18*(2), 85-100. doi:10.37801/ajad2021.18.2.p1

Manifesto Opposing House Bill 7853. (2021). https://ph.oceana.org/press-releases/manifesto-hb7853/

MRAG Asia Pacific. (2022). The state of fish in nutrition systems in the Philippines. A report prepared for Oceana. 87 p.

Muallil, R. N., Mamauag, S. S., Cababaro, J. T., Arceo, H. O., & Aliño, P. M. (2014). Catch trends in Philippine small-scale fisheries over the last five decades: The fishers′ perspectives. *Marine Policy*, *47*, 110–117.

Napata, R. P., Espectato, L. N., & Serofia, G. D. (2020). Closed season policy in Visayan Sea, Philippines: A second look. *Ocean & Coastal Management*, *187*, 105115. doi:10.1016/j.ocecoaman.2020.105115

Nem Singh, J., & Camba, A. (2020). The role of domestic policy coalitions in extractive industries' governance: Disentangling the politics of "responsible mining" in the Philippines. *Environmental Policy and Governance*, *30*(5), 239-251. doi:10.1002/eet.1905

Opinyon. (2022). Unlawful order ng BFAR. https://opinyon.net/national/unlawful-order-ng-bfar

Penney, R., Wilson, G., & Rodwell, L. (2017). Managing sino-Ghanaian fishery relations: A political ecology approach. *Marine Policy*, *79*, 46–53. doi:10.1016/j.marpol.2017.02.008

PhilStar. (2023). Group says no basis for 'red card' vs Philippine fishing industry. https://www.philstar.com/nation/2023/06/07/2272143/group-says-no-basis-red-card-vs-philippine-fishing-industry

Pinkerton, E., & Davis, R. (2015). Neoliberalism and the politics of enclosure in north American small-scale fisheries. *Marine Policy*, *61*, 303–312. doi:10.1016/j.marpol.2015.03.025

Pomeroy, R., Parks, J., Pollnac, R., Campson, T., Genio, E., Marlessy, C., Holle, E., Pido, M., Nissapa, A., Boromthanarat, S., & Hue, N. T. (2007). Fish wars: Conflict and collaboration in fisheries management in Southeast Asia. *Marine Policy*, *31*(6), 645–656. doi:10.1016/j.marpol.2007.03.012

Presidential Communications Office. (2023). PBBM directs DA, BFAR to address illegal, unreported, unregulated fishing. https://pco.gov.ph/news_releases/pbbm-directs-da-bfar-to-address-illegal-unreported-unregulated-fishing/

Raquiza, A. R. (2013). *State structure, policy formation, and economic development in Southeast Asia: The political economy of Thailand and the Philippines*. Routledge.
Republic of the Philippines House of Representatives. (2020). House Bill No. 7853. An act amending section 18 of Republic Act No. 8550 otherwise known as "The Fisheries Code Of 1998".
Rola, A. C., Narvaez, T. A., Naguit, M. R. A., Elazegui, D. D., Brillo, B. B. C., Paunlagui, M. M., Jalotjot, H. C., & Cervantes, C. P. (2018). Impact of the closed fishing season policy for sardines in Zamboanga Peninsula, Philippines. *Marine Policy*, *87*, 40–50. doi:10.1016/j.marpol.2017.09.029
Romero, M. (2023). Fishers fear price spike if gov't reinstates FAO 266. https://tribune.net.ph/2023/06/08/fishers-fear-price-spike-if-govt-reinstates-fao-266/#google_vignette
Russell, S. D., & Alexander, R. T. (2000). Of beggars and thieves: Customary sharing of the catch and informal sanctions in a Philippine Fishery. In E. P. Durrenberger, & T. D. King (Eds.), *State and community in fisheries management: Power, policy and practice* (pp. 19–40). Bergin & Garvey.
Satizábal, P., Dressler, W. H., Fabinyi, M., & Pido, M. D. (2020). Blue economy discourses and practices: Reconfiguring ocean spaces in the Philippines. *Maritime Studies*, *19*(2), 207–221. doi:10.1007/s40152-020-00168-0
Schuhbauer, A., Skerritt, D. J., Ebrahim, N., Le Manach, F., & Sumaila, U. R. (2020). The global fisheries subsidies divide between small- and large-scale fisheries. *Frontiers in Marine Science*, *7*, 792. doi:10.3389/fmars.2020.539214
Segi, S. (2014). "Losing at Sea, winning on land": A case study of Philippine small-scale and industrial fisher resource competition. *Society & Natural Resources*, *27*(12), 1227–1241. doi:10.1080/08941920.2014.948237
Seto, K., Easterday, K., Aheto, D., Asiedu, G., Sumaila, U. R., & Gaynor, K. (2023). Evidence of spatial competition, over resource scarcity, as a primary driver of conflicts between small-scale and industrial fishers. *Ecology and Society*, *28*(1)(1). doi:10.5751/ES-13650-280106
Shore, C., & Wright, S. (Eds.) (2003). *Anthropology of policy: Perspectives on governance and power*. Routledge.
Smith, H., & Basurto, X. (2019). Defining small-scale fisheries and examining the role of science in shaping perceptions of who and what counts: A systematic review. *Frontiers in Marine Science*, *6*, 236. doi:10.3389/fmars.2019.00236
Song, A. M., Scholtens, J., Barclay, K., Bush, S. R., Fabinyi, M., Adhuri, D. S., & Haughton, M. (2020). Collateral damage? Small-scale fisheries in the global fight against IUU fishing. *Fish and Fisheries*, *21*(4), 831–843. doi:10.1111/faf.12462
Spoehr, A. (1980). *Protein from the sea: Technological change in Philippine capture fisheries*. University of Pittsburgh.
Spoehr, A. (1984). Change in Philippine capture fisheries: An historical overview. *Philippine Quarterly of Culture and Society*, *12*(1), 25–56.
Teehankee, J. C., & Calimbahin, C. A. A. (2020). Mapping the Philippines' defective democracy. *Asian Affairs: An American Review*, *47*(2), 97–125. doi:10.1080/00927678.2019.1702801
Ungkakay-Bagsit, F. (2020). The political ecology of the seasonal fishery closure in The Visayan Sea, Philippines [PhD thesis]. East Carolina University.
Ungkakay-Bagsit, F., Monteclaro, H. M., & Griffith, D. C. (2023). *Local perspectives matter: The case of the seasonal fishery closure in the Visayan Sea, Philippines*. *Society & Natural Resources*, 660–679.
USAID Oceans and Fisheries Partnership. (2017). Fisheries catch documentation and traceability in Southeast Asia: Technical concept and specifications (CDT 201). http://repository.seafdec.or.th/handle/20.500.12067/980
Vandergeest, P., Ponte, S., & Bush, S. (2015). Assembling sustainable territories: Space, subjects, objects, and expertise in seafood certification. *Environment and Planning A: Economy and Space*, *47*(9), 1907–1925. doi:10.1177/0308518X15599297
Walley, C.J. (2004). *Rough waters: Nature and development in an East African Marine Park*. Princeton University Press.
World Bank and FAO. (2009). *The sunken billions? The economic justification for fisheries reform*. World Bank/FAO.