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## **MAPPING DISTANT-WATER FISHERIES ACCESS ARRANGEMENTS**



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## PREPARATION OF THIS DOCUMENT

The report results from an exploratory mapping based on a desk study using a range of academic, policy, and media literature. It also draws on the multiple contributors' extensive experiences as researchers, including interview data and collaborations with governments, industry, and civil society.

This report presents fisheries access arrangements by mapping the major arrangements for accessing marine capture fisheries in foreign jurisdictional waters, with a particular emphasis on developing countries. This representative mapping of access arrangements provides a conceptual and empirical foundation for future work on related issues. The report focuses exclusively on industrial-scale activities, including vessels locally flagged and registered where the business is not beneficially owned in the country. The report does not examine fisheries access in general (e.g. access rights for a domestic firm in a domestic fishery). It does not undertake economic analysis nor provide policy options.

This report is the first phase of a comprehensive study on analysing fishing access arrangements from an economic angle to facilitate the identification of opportunities to enhance the trade of fisheries-related services, particularly for developing countries.

The report often uses different empirical material and adapts distinct analytical approaches to the mapping for two main reasons.

First, there are empirical constraints in the study of access arrangements because they are very often secretive and commercial-in-confidence. Neither distant-water fishing fleets (DWF) nor coastal States will always have their arrangements public for various reasons. Some justifications include privacy issues (undermining a negotiation strategy) and/or accountability (not accounting for the total amount of fees being paid). As a result, access arrangements data will always be uneven. The content of the different sections of this report inevitably reflects this landscape.

Second, in addition to the uneven data availability, the individual researchers working on the sections often took different analytical approaches to highlight the more significant trends or issues. For example, in some sections, the approach might be more historical because of an intention to frame the subsequent sections on DWFs and the availability of public information on access arrangements. However, other sections benefit from a vast amount of public information about DWF, and while also historical, it focuses on the institutional dimensions of access arrangements.

The different approaches used here indicate the diverse ways access arrangements can be mapped and analysed, depending upon the question guiding the research. In sum, uneven access to information across the various cases is deployed as a strength in the analysis.

The study was commissioned by the Trade and Markets Team (NFIMT) of the Fisheries and Aquaculture Division of the Food and Agriculture Organization of the United Nations (FAO) through the FAO GLOBEFISH project with the support of the Government of Iceland. The study results from a joint effort among a range of specialists. We would like to acknowledge the contribution and leadership of Professor Liam Campling, Queen Mary University of London, together with Professor Elizabeth Havice, the University of North Carolina-Chapel Hill. A special thanks go to the specialists who contributed to the development of the sections and sub-sections Mialy Andriamahefazafy, University of Portsmouth; Mads Barbesgaard, Lund University; Siddharth Chakravarty, Queen Mary University of London; Béatrice Gorez, Coalition for Fair Fisheries Arrangements (CFFA); Dan Hetherington (trade and economic development); Hyunjung Kim, Queen Mary University of London; Kwame Mfodwo (maritime issues); André Standing, CFFA affiliate; and John Virdin, Duke University.



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## ABBREVIATIONS AND ACRONYMS

<b>CFFA</b>	Coalition for Fair Fisheries Arrangements
<b>CFP</b>	Common fisheries policy of the European Union
<b>CMM</b>	conservation and management measure
<b>COFA</b>	China Overseas Fisheries Association
<b>DG-MARE</b>	Directorate-General for Maritime Affairs and Fisheries
<b>DSF</b>	deep-sea fisheries
<b>DSFV</b>	deep-sea fishing vessel
<b>DWF</b>	distant-water fishing fleet
<b>DWFN</b>	distant-water fishing nation
<b>EEZ</b>	exclusive economic zone
<b>EITI</b>	Extractive Industries Transparency Initiative
<b>EPA</b>	Economic Partnership Agreement
<b>EPO</b>	Eastern Pacific Ocean
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FFA</b>	Pacific Islands Forum Fisheries Agency
<b>FPA</b>	Fisheries Partnership Agreement
<b>GVC</b>	global value chain
<b>IATTC</b>	Inter-American Tropical Tuna Commission
<b>ICCAT</b>	International Commission for the Conservation of Atlantic Tunas
<b>IMO</b>	International Maritime Organization
<b>IOTC</b>	Indian Ocean Tuna Commission
<b>IUU</b>	illegal, unreported and unregulated (fishing)
<b>KOFA</b>	Korea Overseas Fisheries Association
<b>MSC</b>	Marine Stewardship Council
<b>NGO</b>	non-governmental organization
<b>NJACAJV</b>	National Joint Action Committee Against Joint Ventures
<b>OACPS</b>	Organisation of African, Caribbean and Pacific States
<b>OFDC</b>	Overseas Fisheries Development Council of the Taiwan Province of China
<b>PAE</b>	party allowable effort
<b>PICs</b>	Pacific Island Countries
<b>PNA</b>	Parties to the Nauru Agreement
<b>PNMS</b>	Palau National Marine Sanctuary
<b>PSMA</b>	Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing
<b>RFMO</b>	regional fisheries management organization
<b>SFPA</b>	Sustainable Fisheries Partnership Agreement
<b>SIDS</b>	Small Island Developing States
<b>SLORC</b>	State Law and Order Restoration Council
<b>SSF</b>	small-scale fisheries
<b>TKA</b>	Tokelau Arrangement

<b>TTA</b>	Taiwan Tuna Association
<b>TTPSA</b>	Taiwan Tuna Purse Seiners Association
<b>UNCLOS</b>	United Nations Convention on the Law of the Sea
<b>VDS</b>	Vessel Day Scheme
<b>WCPCF</b>	Western and Central Pacific Fisheries Commission
<b>WCPO</b>	Western and Central Pacific Ocean
<b>WIO</b>	Western Indian Ocean
<b>WIOTO</b>	Western Indian Ocean Tuna Organisation

**Currency:**

<b>USD</b>	United States dollar
<b>CNY</b>	Chinese yuan or yuan renminbi
<b>JPY</b>	Japanese yen
<b>EUR</b>	Euro
<b>XOF</b>	West African CFA franc

## EXECUTIVE SUMMARY

This report presents a mapping of the major arrangements for accessing marine capture fisheries in foreign jurisdictional waters, with a particular emphasis on developing countries. The report is the first phase of a comprehensive study on analysing fishing access arrangements from an economic angle to facilitate the identification of opportunities to enhance the trade of fisheries-related services, particularly for developing countries. It focuses exclusively on industrial-scale activities, including vessels locally flagged and registered where the business is not beneficially owned in the country. The conceptual framing emphasizes that businesses, not states, engage in fishing activities. In addition, based on the United Nations Convention on the Law of the Sea (UNCLOS), sovereign rights over marine resources are considered a form of state property and a public asset.

The concept of “foreign” fisheries access arrangements concerns resource access across national boundaries in the marine fisheries sector. The approach adopted to map access arrangements draws on the notion of the geopolitical economy by identifying the constellation of relevant states and firms. It also recognises “interests” as contingent, context-specific, and usually a combination of economic and geopolitical forces.

A typology of access arrangements covering a very high percentage of global fisheries can be classified as:

- **First-generation access arrangements** basically involve allocating fishing access in return for financial payment. It can have different formats, such as bilateral or plurilateral, government-to-government, industry association-to-government, and firm-to-government. Additional payments made by the fleet’s national State can also exist.
- **Second-generation access arrangements** involve one or two broad mechanisms. It can include allocating access and/or reduced licensing costs for foreign vessels to register locally. It can also agree to use local goods and services through transshipment and/or land the fish domestically. Alternatively, it can set onshore investments in return for fishing access, such as processing facilities. Commitments to onshore investments can take the form of joint venture enterprises and involve anticipated direct and indirect employment generation, spin-offs in ancillary industries, exports, and technology transfer, among others.

The primary approaches on these arrangements by the major distant-water fishing nations (DWFN) and distant-water fishing fleets (DWF) are also described. The case studies encompass Japan, the European Union (EU), China, Taiwan Province of China, the Republic of Korea, the United States of America, the Russian Federation, and the Philippines.

There is a diversity of ways access arrangements can be mapped and analysed. Each case analysis presents the leading players, the overall approach, and the structure of access arrangements. Different analytical techniques for mapping each case were adapted to highlight the more critical contextual trends or evidence contingent issues.

The report then maps the existing access arrangements in developing countries by major regions – Africa, Asia, Latin America, and the Pacific Islands. In Africa, two cross-cutting issues are highlighted: (i) the relationship between the European Union resource access and African market access for fisheries and aquaculture products; and (ii) the role of fishing agents. The difference in analytical emphasis is driven by the case’s specifics, which can be highlighted by comparing the coverage of India and the Pacific Islands. The section on India emphasises the historical unfolding of domestic policy for a resource-holding State, showing how social dynamics among different domestic actors shaped the

politics of access arrangements. The section on the Pacific Islands is more focused on the forms of South–South cooperation used by these resource holders and their shifting relationships with resource-seeking DWFs and DWFNs.

The legal and technical forms that access arrangements may take vary significantly. The report outlines different access arrangement structures and shows how these structures are enacted in practice. Furthermore, access has a temporally dynamic pattern since resource-owning and resource-seeking States and firms change and are constantly experimenting how the designs of access arrangements might best achieve their dynamic goals and objectives. For example, while many access arrangements are bilateral in nature, the mapping also highlights multiple instances in which resource-owning States have collaboratively and positively managed access when they share governance of straddling stocks, demonstrating the importance of regional cooperation.

Despite the ubiquity of access relations, the mapping reveals that each access arrangement reflects the environmental conditions of production in each fishery. The ever-shifting combination of regulatory, commercial, and ecological conditions creates dynamic practices considering historical and contemporary sectoral institutional and political relations. Regardless of the classification of access arrangements as first or second-generation, their actual functioning and experience are region- and context-specific. The core characteristics and conditions vary from fishery to fishery. Thus, while movements towards best practices in access agreements can be instrumental, the nature and outcomes of access agreements will ultimately be an empirical issue specific to each case.

## 1 INTRODUCTION

The report takes a global view and is essentially concerned with resource access across national boundaries in the marine fisheries sector (i.e. foreign fisheries access arrangements). The approach adopted to map access arrangements draws on the idea of the geopolitical economy by identifying the constellation of relevant states and firms. It also recognises “interests” as contingent, context-specific, and usually a combination of economic (international business, international economics) and geopolitical (international relations) forces. In the contextualisation of these relationships, geography (or spatial dynamics) matter. As a result, the interests that shape State policies are complex sets of social relations that are often conflictual and contradictory. The result is that the policies and strategies of a single State or distant-water fishing fleet (DWF) may not be coherent or be in tension. For example, a single resource-holding State may need to contend with the articulation of diverse domestic political interests and claims (conservation, food security, access revenue, raw material for processing, foreign investors); conflicting regional and international state interests (disputes over the control of fish stocks or maritime boundaries, promoting domestic firms, protecting markets, seeking raw material, promoting conservation); and competition between transnational interests (multinational firms, non-governmental organisations [NGO]). To cut through this complexity, we use the terminology of resource-seeking and holding firms and States.

**Resource-seeking firms and States** emphasise that firms engage in fishing, not States or flags. Albeit with the important exception of State-owned firms and always recognising the crucial relationships between States and their domestic firms.<sup>3</sup> This differentiates the approach of this report from other work on access which tends to focus primarily on flags or distant-water fishing nation (DWFN). It also highlights resource access as an important dimension of firm strategy, relating to flag States, national States, and host States.

**Resource-holding States and firms** emphasise that sovereign rights over marine resources in an exclusive economic zone (EEZ) are State property under the United Nations Convention on the Law of the Sea (UNCLOS). These access rights should generally be seen as a public asset (see section - Reflections), but in some cases, they may have been allocated to a private entity or a firm, such as with individual transfer quota. There are several legal complexities and conflicts here, most of which are set aside in the mapping that follows in the interests of parsimony, but here three are indicated. First, access relations under transboundary fisheries are a particular case (see section 1.2). Second, disputed claims over maritime boundaries can shape access relations. For example, situations where the geopolitical dispute over maritime territory is essentially parked to allow sharing fisheries access due to geoeconomics interests, such as in the East China and Yellow seas among China, Japan, the Republic of Korea, and Taiwan Province of China (see section 3.2.1). Third, the role of territorial waters (12 nautical miles) and their treatment, where often (but not always) DWFs are excluded under first-generation access agreements, but can result in tensions in second-generation arrangements, including with local fishers.

### 1.1 Natural resource rent

Differences in access value across fisheries arise when one fishing zone produces a higher rent than another. Rent can be affected by factors such as differing EEZ sizes, more abundant fish stocks or different species composition, or a lower cost of doing business because of freight costs and logistics, among other factors. The contrast in the value of access is the difference between the value of fishing in one zone instead of the following most productive zone. In sum, the value of access should reflect the expected returns of the harvesters relative to their operating costs.

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<sup>3</sup> For example, when States seek to access on behalf of or in concert with what are perceived as national firms as domestic political-economic interests.

However, important political considerations may also influence the value of access. For example, receiving official development assistance and other types of aid and official flows can be linked to access arrangements. Fisheries resources can be used to reach agreements in other international economic agreements, and/or operational problems can undervalue the resource rent. The value of access can be further influenced by various variables, including fisheries control and management, resource health, and competition. In sum, many factors, some easier to identify than others, contribute to the total value of access.

A starting point in any consideration of access fee pricing should be the underlying resource rent. However, standard economic theory has not been good at predicting it considering the complexity of the process, considering being shaped by a range of political-economic factors, including those external to fisheries (e.g. onshore processing, trade, and market access, fisheries subsidies), as well as geopolitics (e.g. official development assistance, regional spheres of influence by powerful DWFNs).

The dominant approach to calculating access revenue advanced by DWFs, mainly from East Asia, has been based on the rate of return on the landed value of the catch. A sample of longline and purse seine access agreements from the 2000s made by DWFs with African and Pacific Small Island Developing States (SIDS) and the Pacific Islands showed that the rate of return ranged from six to seven percent. This fee per tonne is the equivalent of a tax on the marine fish taken. Given the wide availability of price databases (e.g. FAO and GLOBEFISH), it is relatively easy to calculate, assuming that the operator accurately reports catching volumes. However, losses involving coastal State fisheries agencies in terms of revenue can also be misreported, particularly considering the monitoring burden to counter this practice. DWFs have preferred the rate of return model because operators pay less when fishing is poor. As a result, coastal States incur variable revenue streams during weak years by absorbing the risks of DWFs.

Alternative methods include a flat fee up to a certain catch quota or reference tonnage, with a rate of return top-up for a catch over that volume.<sup>4</sup> Although this approach improves budgetary planning, it still faces the problem of underreporting, especially when over quota.

The most recent alternative of major significance in the Western and Central Pacific Ocean (WCPO) tuna fisheries is the purchase of fishing days, where a DWF purchases the right to fish in an EEZ for a given period, which is also a form of effort control (see section 3.4). Using the rate of return model by the Parties to the Nauru Agreement (PNA), the Vessel Day Scheme (VDS) have generated over 25 percent of the landed catch value as coastal State revenue.

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<sup>4</sup> The reference tonnage amounts are found in the European Union Sustainable Fisheries Partnership Agreements (SFPA) protocols and provide a basis for calculating the fees paid to the coastal State.

**Box 1**  
**South–South cooperation and the Pacific Islands' Vessel Day Scheme (VDS)**

Over the last 15 years, Pacific Island Countries (PICs) have innovated South–South cooperation to increase their individual and collective sovereignty over their EEZs, grow revenues from foreign access, and generate environmental improvements in their fisheries. The most important of these efforts (the purse seine VDS) is outlined here as a reference point. The ways that resource-seeking States and firms engage with the VDS are discussed in section 2, and VDS and parallel schemes are outlined in greater detail in section 3.4.

In 2007, the eight Pacific Island Parties to PNA implemented a regional, rights-based approach to allocating fishing access – known as the purse seine VDS. The eight PNA Members are Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, Papua New Guinea, Solomon Islands, and Tuvalu; Tokelau is also engaged with PNA and VDS (see section 3.4). VDS shifted the approach to access for purse seine vessels from a vessel number cap (previously 205 vessels) to selling individual fishing days. The scheme operates as follows: PNA Members agreed to a total number of fishing days allowed inside all PNA waters and allocate these days to PNA members based initially on historical catch and distribution of biomass in EEZs (Aqorau, 2009). Each country then sells its allocation to vessel owners, industry associations or as part of government-to-government access agreements as they see fit (Palau Arrangement for the Management of the Western Pacific Purse Seine Fishery – Management Scheme – VDS 2005). VDS commenced in 2007 after a one-year trial.

The purse seine VDS has resulted in having the smallest States with more managerial conditions. PNA allowed a transformation of political and spatial configurations of sovereign control over mobile tuna resources and ocean spaces inside and outside of PNA EEZs, and over the activities of vessels (Havice, 2018). They have dramatically increased the price fleets pay to fish in PNA waters by shifting to the regional allocation of fishing days. In 2004, a fishing firm paid roughly USD 1 350 for one fishing day (Havice, 2013). Four years after the initiation of VDS, in January 2012, PNA Members set a minimum benchmark price for a single fishing day per vessel at USD 5 000, increasing to USD 8 000 by January 2015. In recent years, fishing firms have routinely paid above the minimum benchmark due to the high demand for fishing days. As a result, the total value of access fees collected by the eight PNA countries has increased from USD 60 million in 2010 to roughly USD 500 million by 2018.

## 1.2 Allocation of transboundary fisheries

Transboundary fisheries such as tuna and tuna-like species are governed through interstate bodies. UNCLOS, and the United Nations Fish Stocks Agreement, among other legal instruments require that all involved States cooperatively manage shared fisheries, even in national waters. The terms and conditions for this cooperation are left for the involved States to determine. Plurilateral or bilateral bodies, including regional fisheries management organizations (RFMO), usually fulfil this mandate (Allen *et al.*, 2010). In RFMOs, coastal and island States are those with 200-mile EEZ within the RFMO area, while DWFNs' fleets operate in the high seas or the EEZ of a coastal or island State in the RFMO. Countries that can demonstrate an interest in a transboundary fishery are also included, allowing multiple countries can seek access to it. As a result, States construct and express their sovereignty over ocean space, including the associated fish resources, concerning each other and the interests of firms competing to seek resource access, creating an open range of political possibilities for interstate negotiations and outcomes (Havice, 2021).

Interstate fisheries management bodies commonly use quotas, capacity or effort caps to limit extraction, and achieve economic, social and environmental objectives (Costello *et al.* 2010; Squires *et al.*, 2017; Anderson *et al.*, 2019). It follows that States must allocate quotas or efforts to users and navigate tensions between national and collective interests (Allen *et al.*, 2010; FAO, 2020b). In RFMOs, allocation is multi-stage: total quota or effort is agreed upon at the RFMO level. RFMO Members allocate portions to States. Each State then determines how it will assign its share to individual user groups, such as firms or groups of firms (Allen *d*, 2010). Each RFMO tends to take a different approach, depending upon its historical institutional development and the distinctive access

relations of countries in the region. For instance, the Inter-American Tropical Tuna Commission (IATTC) has a closed regional vessel register paired with a target capacity, portions of which are allocated to member States, which then manage the vessels that access capacity through their flag. In the case of the Western and Central Pacific Fisheries Commission (WCPFC), it has recognised the arrangements advanced by eight PNA who created the VDS' total allowable effort for purse seine fisheries (Box 1). PNA allocates a portion of that effort to each participating State, which sells it to fishing firms at its discretion or trades it with other States in PNA. The International Commission for the Conservation of Atlantic Tunas (ICCAT) establishes total allowable catch and allocates it among member states before states allocate it to fishing firms or associate.

### 1.3 Typology of fisheries access arrangements

There are varied ways in which resource seekers and resource holders negotiate. Access arrangements can be reciprocal, typically between developed–developed countries (reciprocal Northern agreements) and non-reciprocal, usually involving developed–developing countries (non-reciprocal Southern agreements).<sup>5</sup> In addition, access arrangements can address single species or multispecies. First-generation arrangements involve a foreign entity gaining the right to fish in a coastal State EEZ through the payment of resource rent (cash for access), and second-generation arrangements involve foreign firms gaining access to a fishery in an EEZ by registering the vessels domestically or making a local investment that entitles them to a fishing license.

In some cases, parties to an arrangement are both resource seekers and holders. These are often reciprocal arrangements that are less about revenue capture on behalf of the resource holder, and more about resource sharing and pooling. These are generally, but not exclusively, Northern agreements. For example, the European Union–Norway, and the web of agreements in the East China Sea among China, Japan, the Republic of Korea and Taiwan Province of China (see section 3.2.1). Some developing country agreements can be reciprocal, such as Mauritius–Seychelles.<sup>6</sup>

The focus of this report is more on non-reciprocal Southern arrangements. There were identified two overarching types, within which are various subtypes.

**First-generation access arrangements** involve allocating fishing access in return for a financial payment. The agreements are typically regulated by complex requirements relating to fisheries management, monitoring, control and surveillance, and enforcement. Various methods are used to calculate the financial component. There are three main types of first-generation access agreements:

- 1) government-to-government, which can be bilateral (the approach used by the European Union) or plurilateral (used by the United States of America with the Pacific Islands);
- 2) industry association-to-government (used by fleets flagged by Japan and Taiwan Province of China, among others); and
- 3) firm-to-government.

The first two types can also be accompanied by additional payments made by the fleet's national State directly through the legal terms of the agreement (section 2.2 – the European Union Sustainable Fisheries Partnership Agreements (SFPAs); section 2.6 – the United States of America tuna treaty in the Pacific) or indirectly through decoupled aid mechanisms [section 2.1 – Japan]).

<sup>5</sup> There are several developing–developing country arrangements, but these often benefit DWFs. For example, in West Africa, there is an increasing number of arrangements among coastal States in the region which allow firms of foreign origin to expand their fishing grounds (e.g. an agreement between Senegal and Liberia, that covers DWF access of Republic of Korea to Liberian waters). See also the reciprocal agreement between Mauritius–Seychelles (Section 3.1.3) and the Federal States of Micronesia Agreement (Section 3.4).

<sup>6</sup> This Agreement usually benefits boats owned by the European Union using the vessel registry in each country.

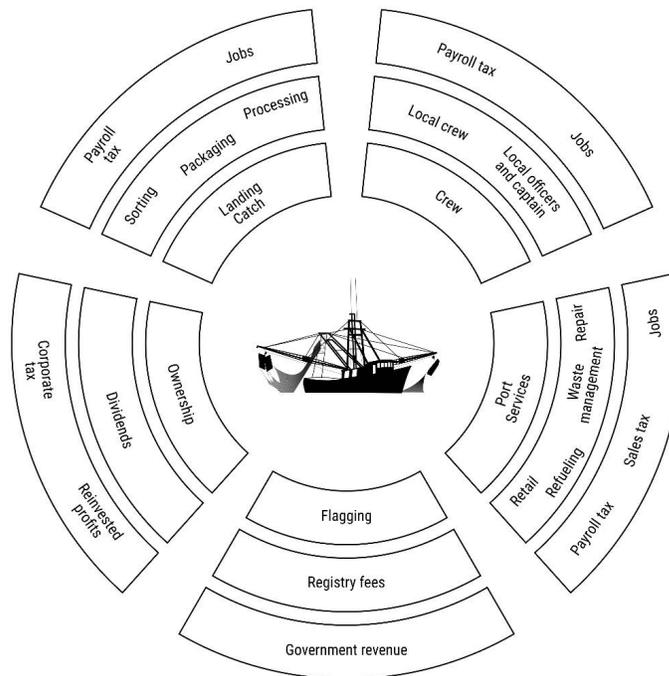
**Second-generation access arrangements** involve one or a combination of two broad mechanisms. The allocation of access and/or reduced licensing costs in return for the vessels registering locally, and agreeing to use local goods and services through transshipment and/or landing of the fish domestically; and/or onshore investment in processing facilities in return for fishing access. Commitments to onshore investment can take the form of joint ventures and involve anticipated direct and indirect employment generation, spin-offs in terms of ancillary industries, exports, technology transfer, etc. Figure 1 illustrates how having a vessel under a first or second-generation arrangement can allow the anticipation of gains to provide socioeconomic contributions.

Historically, second-generation arrangements included joint ventures with host governments (e.g. Japan in Fiji and Solomon Islands, see section 2.1). More recent iterations tend towards private sector-led arrangements with significant State concessions (fisheries licenses, access to land, tax breaks, and other incentives). For example, Namibia and India (see sections 3.1.1 and 3.2.3, respectively). A regional dimension is often associated with second-generation arrangements, mainly where a DWF uses the access in one EEZ to benefit from South–South cooperation arrangements in another EEZ.

Two final types of access arrangement are worth noting:

- illicit arrangements. These remain important in some contexts and have been historically significant (Myanmar in section 3.2.2); and
- open registries where the provision of a flag with almost no strings attached can create havoc in domestic and regional fisheries.<sup>7</sup>

**Figure 1**  
**Dimensions of a vessel's domestic contribution to the economy**



Source: Campling, L. & Hetherington, D. 2021. *Review of the forum leaders' decision to increase economic returns from fisheries*. Commissioned by the Interagency Working Group of FFA, PIFS, PNAO and SPC.

<sup>7</sup> This example is not addressed in detail in this report.

## 2 RESOURCE SEEKERS: APPROACHES TO ACCESS ARRANGEMENTS

### 2.1 Japan

Japan's DWF has had a long and diverse history. It is indeed illustrative to trace its approach to gaining access to distant fisheries before the implementation of EEZs in customary international law. History can provide early examples of the range of strategies of resource-seeking firms (from first to second-generation access) with varying degrees of direct and indirect involvement of the State, and driven by a range of broader social, economic, and political factors such as food security and export-led industrialisation. These factors continue to shape fisheries access policies today, both among resource-seekers and resource-holders. Further, Japanese commercial and political ties (e.g. the large domestic market, trading firms, official development assistance) have played a significant role in catalysing the development of other major DWFNs, including the Republic of Korea and Taiwan Province of China. History indeed informs understanding of other DWFs' fisheries access arrangements.

Japan's early distant-water tuna fisheries were initiated by State-sponsored experimental fishing trips in the 1910s. These were quickly followed by creating commercial fishing bases in the European colonies in Southeast Asia, initially to supply burgeoning local markets. The British and Dutch colonial administrations welcomed this investment.

The fisheries development policy of Japan was motivated by several factors. It included exporting its overpopulation from fishing villages, supplying domestic food demand, having a DWF that could act as a naval reserve considering international limitations,<sup>8</sup> and generating employment and revenues from export-oriented fish processing.

By the late 1930s, investment in new industrial vessels allowed Japanese firms to land fish caught in Southeast Asian waters directly in Japan and its (then) colony Taiwan Province of China (Butcher, 2004). The Treaty of Versailles granted Japan colonial territories in the Federated States of Micronesia (the South Pacific Mandate), allowing Japan to develop bases for fishing operations in other Pacific Islands (Doulman, 1987; Barclay, 2008). Until the Second World War, the growing geographical reach of Japan's tuna fisheries was encouraged by the extensive government support, including a 1 896 distant-water incentive scheme and the 1922 Fiscal Subsidy Act for Fisheries (Butcher, 2004). Therefore, the government was financing the mechanization of its national fishing fleet with engines, refrigeration equipment, and radios. Japan quickly emerged to be the world's largest industrial fishing nation. In 1939, Japan's fishing industry was valued at around JPY 778 million (USD 202 million), directly and indirectly supporting over 30 percent of the population and providing a significant source of foreign exchange. Marine product exports, such as canned fisheries, aquaculture products and whale oil<sup>9</sup> were worth JPY 175 million annually. In terms of export value, this was behind only raw silk, cotton fabrics and apparel, much of which required imported raw materials (Herre, 1987). As noted by a commentator in 1940, the fish cost practically nothing.<sup>10</sup> The Second World War saw this world-leading industrial capacity decimated. Nonetheless, severe post-war domestic food shortages and a government intent on export-orientated re-industrialisation led to a range of government support to redevelop a national fishing fleet (Bergin and Haward, 1996; Barclay and Koh, 2008; Campling and Colás, 2021). By 1954, Japan had extended its fishing grounds to include the entire Pacific and Indian Oceans, mimicking, at least commercially, the geographic reach in the 1930s.

In the context of Japan's controls over its DWF and rapidly growing domestic per capita income and domestic demand for seafood, commercial interests in Japan sought to expand and diversify their sources of marine fish products. A notable strategy was the 1970s push by Japanese trading firms (sogo shosha) by financing fishing firms of the Republic of Korea and Taiwan Province of China,

<sup>8</sup> In particular, the 1922 International Conference on Naval Limitation (Washington Naval Conference).

<sup>9</sup> For use of manufacturing margarine and soap in Europe.

<sup>10</sup> Sozui Sen'ichi writing in the pro-government, English-language quarterly *Contemporary Japan*, as cited by Tsutsui, *The Pelagic Empire*, pp. 25

which also received substantial support from their governments (sections 2.4 and 2.5). These new industrial DWFs were locked-in to the sogo shosha through fixed supply contracts and/or loans repaid in fish, assuring a diversified source of fish for their Japanese clients (Comitini, 1987; Haward and Bergin, 2001; Chang *et al.*, 2010). While this practice declined in significance with the boom in global industrial DWF capacity in the 1980s onwards, it provided the finance and marketing networks necessary to making the Republic of Korea and Taiwan Province of China among the leading DWFs in the world, competing directly with Japanese vessels, especially in the Pacific Ocean (Haward and Bergin, 2000; Chang *et al.*, 2010; Hamilton *et al.*, 2011).

Japan maintains strict control of distant-water operations through a long-standing cap on distant-water vessel numbers (Havice *et al.*, 2019). The Ministry of Agriculture, Forestry and Fisheries of Japan provides the public information on its access arrangements on a country-by-country basis. In 2020, Japan had 13 active access arrangements in place, including:<sup>11</sup>

–an arrangement with the Russian Federation for salmon, sardines and other species. It includes a reciprocal component, but with a cooperation fee paid by a private organisation on the Japanese side; and a cash for access component for a smaller quota;

–a non-reciprocal first-generation access agreement with Morocco for Japanese tuna longline fishing since 1985; and

–non-reciprocal agreements for a mixture of tuna longline, purse-seine and bonito fisheries with the Federated States of Micronesia (since 1979), Kiribati (since 1979), Nauru (since 1994), Marshall Islands (since 1979), Palau (since 1979), Papua New Guinea (1978), Solomon Islands (since 1978) and Tuvalu (since 1986). However, PNA purse seine VDS and tropical longline VDS have changed the profile of Japan’s traditional access arrangements in these EEZs (see section 3.4).

Japan’s access arrangements are negotiated by industry associations representing different gear types (e.g. industrial purse seine, freezer longline, fresh longline). The government usually financially supports the industry associations. For tuna fisheries, they are:

- Kaigai Makiami Gyogyo (KAIMAKI) –Japan Far Seas Purse Seine Fisheries Association;
- Kinkatsu – National Offshore Tuna Fisheries Association of Japan;
- Nikkatsu – Japan Tuna Fisheries Cooperative Association; and
- Typically, industry associations support vessel owners by leading the negotiation of access arrangements, together with a government official, including the possibility of involving multiple coastal States simultaneously to leverage gains.

Japan’s access agreements contain coupled or tied official development assistance, including government support loans to Japanese firms to operate in third countries, including local firms. The Overseas Fishery Cooperation Foundation, funded by the Fisheries Agency of the Ministry of Agriculture, Forestry, and Fishing of Japan, provides financial and technical support customarily offered only to coastal States with which Japan’s DWF has access agreements. The support mechanisms include zero and low-interest loans.

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<sup>11</sup> Ministry of Agriculture, Forestry and Fishing of Japan 2020 notes fisheries relations with Fiji and Peru but no fishing is taking place. The report also does not mention other aspects of Japan’s access relations, such as the historical role of Mauritius as a key port for expanding its industrial fishing presence in the Indian Ocean and around the African coast (Degnarain, 2020).

The negotiation strategy of Japan's tuna fleet would typically consist of all three tuna industry associations reaching an agreement together, maximising their collective power and supplemented by tied official development assistance.

The Japanese fleet primarily returns to Japanese ports, not relying on overseas transshipment. Though the Government of Japan, it has recently relaxed requirements to offload in Japan, the fleet largely retains the practice. The additional costs of returning to Japanese ports to unload are partly offset by access to better maintenance and repair facilities needed. Japanese firms have experienced only very uneven success in establishing joint ventures in African or PICs. These typically have involved re-flagging vessels and, in some cases, shore-based operations. Two significant examples of early second-generation access arrangements are Japanese multinational firm joint ventures with the governments of Fiji and the Solomon Islands in canned tuna processing in the 1970s. The Pacific fishing company, named PAFCO, was created in Fiji, led by C. Itoh (now called Itochu) and Solomon Taiyo by Taiyō Gyogyō (now called Maruha) in the Solomon Islands (Ram-Bidesi, 2003; Barclay, 2008). The initial driver was the business interest in securing strategic access to tuna resources as coastal States declared sovereignty over their 200-mile EEZs. The rationale for these investments strengthened when in 1976, the Lomé Convention offered duty-free access to the European Union market for the Organisation of African, Caribbean and Pacific States (OACPS), offering considerable savings for production within the structures of these two island economies.

In the Solomon Islands, joint venture fleets were legally registered as local and did not pay access fees to fish, unlike competing for foreign fishing fleets. They also gained privileged access to bait fisheries in reefs and lagoons essential for the pole-and-line fishing technique and off-limits to foreign fishing vessels (Barclay, 2008). Over time, this initial joint venture upgraded from a fishing base to producing canned tuna, an investment that generated infrastructure and jobs. An ownership structure of 51 percent government and 49 percent Taiyō Gyogyō enabled the firm's fishing vessels to meet strict rules of origin and qualify for the trade preference, which was critical for cost-effectiveness purposes. Over the following twenty years, the tuna processing plant in the Solomon Islands remained operational. However, by 2001, a prolonged competitive decline resulted in the Japanese investor Taiyō Gyogyō pulling out of the venture, and the government taking full ownership.

Fiji has been an export base for tuna fishing fleets since the early 1960s, considering East Asian fishing interests. However, their activities generated few jobs and limited infrastructure investments. In the mid- 1970s, the Government of Fiji entered into a joint venture as a minority partner with the Japanese multinational C. Itoh to process tuna for the European Union. However, the plant suffered from raw material shortages associated with rules of origin compliance issues (Ram-Bidesi, 2003). The preferential compliance problem and the fact that Fiji does not have a large tuna population contributed to Itoh's withdrawal from the insolvent plant in 1987. The State became the sole owner of the cannery, supporting the faltering business through financial support mechanisms and development assistance (Barclay and Cartwright, 2007).

In addition to the financial support offered to firms by these island States, the Government of Japan also supported its national firms' distant-water fishing activities. The official financial support to the cannery and port infrastructure development was instrumental in securing fishing licenses for Japanese fleets. This direct and indirect financial support made Japanese firms' investments in the Solomon Islands and Fiji more economically feasible (Bergin and Haward, 1996).

Some Japanese boat owners, especially tuna longliners, use the maru-ship system to help reduce vessel labour costs. The maru-ship system keeps the vessel flagged by Japan, which is necessary to benefit from domestic offloading, and domestic and foreign fisheries access arrangements. However, the Japanese owner leases the boat to a foreign entity, who then crews the vessel and the owner then recharter (Goto, 1998). The maru-ship system allows longline firms to charter vessels to a foreign crew and the third party will hire the foreign crew under their national jurisdiction (Campling *et al.*, 2007; FAJ, 2005). This mechanism considers Japanese regulations restricting foreign crew on longliners to a maximum of 40 percent.

## 2.2 The European Union

The European Union DWF consisted of 250 vessels in 2018 over 24 metres and that fly the flag of a Member State (Spain 78 percent, France 9 percent and Portugal 8 percent). The European Union DWF consists of large, capital-intensive vessels landing 14 percent of the total European Union catch but constituting only 0.4 percent of its active vessels (STECF, 2020). There are additional vessels owned by firms based in European Union countries (e.g. France, Spain) that use non-European Union flags.

The national fisheries policies of the European Union Countries, including their external aspects, are under the control of the European Union. External fisheries negotiations are conducted by the Directorate-General for Maritime Affairs and Fisheries (DG-MARE), created in 1977, based on specific mandates given by the Council of Ministers.<sup>12</sup> The European Commission, led by DG-MARE, is institutionally responsible for multilateral agreements on fisheries management, fisheries aspects of European Union trade policies, and bilateral resource access agreements with third countries (Lequesne, 2004).<sup>13</sup> The Council of the European Union has set out a detailed set of policies governing the external dimension of the common fisheries policy (CFP). This including concluding and maintaining bilateral fisheries agreements with the aim of ensuring the sustainable exploitation of surpluses of marine living resources as well as a means of protecting this activity and the employment linked to the European Union fleets operating within these agreements because of their special nature and their connection to regions which are highly dependent on fisheries.<sup>14</sup>

The European Union maintains two different types of access arrangement with third countries: non-reciprocal Southern agreements, which typically held with African and Pacific States (Figure 2) and based on a layered set of financial payments by the European Union and boat-owners. And the so-called Northern agreements, which are primarily based on reciprocal resource access and without financial components (e.g. with Norway). Southern agreements fall into two sub-categories: mixed species and tropical tuna agreements, with a predominance of Spanish and French DWFs (Ifremer, 1999; Lequesne, 2004; Campling, 2012a).<sup>15</sup>

Southern agreements are now known as SFPAs. As of the end of 2019, the European Union had 13 SFPAs:<sup>16</sup>

- nine tuna agreements: Cabo Verde, Liberia, Ivory Coast, Sao Tome and Principe, the Cook Islands, Seychelles, Mauritius, Senegal and the Gambia – with a hake component for the last two; and
- four mixed agreements: Greenland, Morocco, Mauritania and Guinea-Bissau.

The terms and conditions of the Southern agreements of the European Union shifted from cash for access agreements from 1979 to 2001 to a more sustainability-focused Fisheries Partnership Agreement (FPA) with the 2002 reform of CFP,<sup>17</sup> and again to SFPAs from the 2013 CFP reform to date. For the first time, an external fisheries policy chapter describing the goals of SFPAs was added to the 2013 policy reform, including restrictions on the access of European Union fleets to resources

<sup>12</sup> Formerly Directorate-General for Fisheries (DG FISH).

<sup>13</sup> The first EU access agreement was with the United States of America in 1977 (Ifremer, 1999). The first Southern agreement quickly followed in 1979, with Senegal (Walmsley *et al.*, 2007). Smidt (2001) dates this in 1977.

<sup>14</sup> The initial policy, which has gone through various revisions, was set out in the Hague Resolution (1976) as cited in DG-MARE 2001.

<sup>15</sup> Various civil society organisations in the European Union and in partner countries also influence the terms of SFPAs, as shown in the case of West Africa in section 3.1.1.

<sup>16</sup> List of European Union SFPAs: [https://ec.europa.eu/fisheries/cfp/international/agreements\\_en](https://ec.europa.eu/fisheries/cfp/international/agreements_en)

<sup>17</sup> Among other things, FPAs imposed greater conditionalities on coastal States over the utilisation of EU payments.

in third countries. Due to these restrictions, the European Union stopped its vessels from engaging in the octopus fishery in Mauritania, as these overexploited stocks were fully utilised by local fishers (see section 3.1.1) (CFFA, 2020). A key objective for the European Union is to increase the number of SFPAs, as made clear in DG-MARE's 2020 strategic plan by mentioning the increase number of SFPAs in force from 13 to 16 by 2024 (DG-MARE, 2020). Most European Union stakeholders are in favour of expanding the network of SFPAs, based on 2013 CFP objectives.

Historically, the financial returns to coastal States are significantly lower in access arrangements with DWFs other than the European Union, apart from the United States of America Multilateral Tuna Treaty with the PICs (section 2.6). For example, access agreements in the 2000s between SIDS and East Asian DWFs were typically based on a small-flat fee plus a five to six percent top-up based on the ex-vessel value of the catch (Campling *et al.*, 2009), while SFPAs were generally valued at 13 percent of the value of the catch (Walmsley *et al.*, 2007). This changed with the PNA purse seine VDS (section 3.4).

Direct payments by DG-MARE to coastal States to facilitate the European Union DWF's resource access is a major aspect of the CFP, making fisheries access an important component of the European Union's international relations. The European Union budget for cash for access agreements increased from EUR 5 million in 1981 to EUR 38 million in 1987. A rise that incorporated both the first full access agreement with Seychelles in 1983 (on behalf of the French DWF, see section 3.1.3) and the activities of the Spanish fleet when Spain acceded to the European Economic Community in 1986. The budget rose again to EUR 163 million in 1990, before reaching EUR 300 million in 1997. In the period 1993-1997, the financial contribution of boat-owners to Southern agreements was an average of only 18 percent of the total paid to

OACPS, increasing to 35 percent in 2004 (Ifremer, 1999; Walmsley *et al.*, 2007). It is important to recognise the main regions where SFPAs are concentrated. For example, in 2013, 4 of 12 (then) FPAs constituted 77 percent of FPA payments, which included Mauritania (a multi-species agreement in the Atlantic Ocean), Madagascar, Mozambique and Seychelles (tuna agreements in the Indian Ocean) (European Court of Auditors, 2015).

In 2020, SFPAs consisted of an annual average contribution from the European Union and shipowners of EUR 180 million, broken down into three pillars (European Commission, 2020):

1. a minimum European Union financial compensation for fishing possibilities, which goes to the general treasury as a payment for access (about 68 percent of the contribution);
2. European Union sectoral support to improve governance and development (e.g. to fisheries management agencies and development projects);<sup>18</sup> and
3. a minimum private industry financial contribution (25 percent), as well as for tuna agreements, top-ups per tonne caught over a pre-defined level of reference.

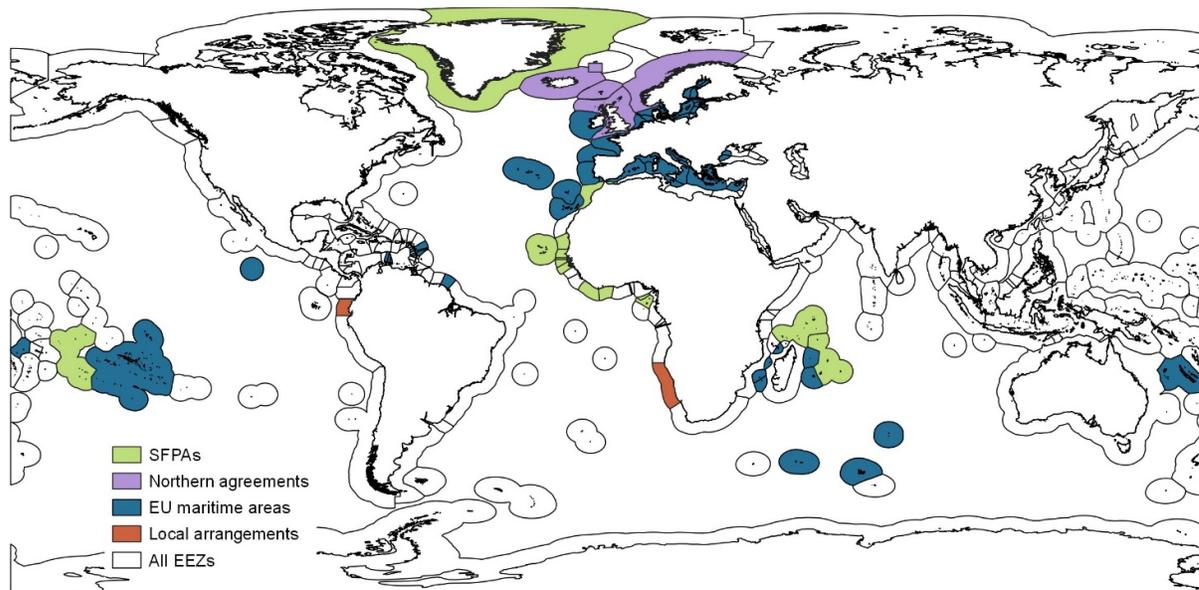
The European Union payments compensate for access costs of the European Union DWF in third country waters. Seychelles Report of The Fisheries Transparency Initiative (FiTI) shows that European Union vessels fishing under SFPA pay much less than other foreign flagged vessels and local flagged vessels.

For example, a non-European Union foreign-flagged purse seine fishing license costs between USD 110 000 120 000 per year, whilst for a European Union purse seiner fishing under SFPA, it costs USD 63 000 (FiTI, 2019). As the report notes, the fees to be paid by shipowners are complemented by an additional overall financial contribution from the European Union. For 2019, the European Union paid an annual amount of EUR 2.5 million for access to Seychelles' EEZ, and an additional

<sup>18</sup> However, the European Court of Auditors found that European payments for sectoral support were not linked to demonstrable progress by the partner countries in implementing agreed actions.

EUR 2.5 million for the support and implementation of Seychelles' sectoral fisheries and maritime policy. Given the intensity of competition over fisheries access, the compensation component of the European Union Southern agreements places the EU DWF at a distinct commercial advantage *vis-à-vis* other DWFs.

**Figure 2**  
**Network of European Union marine territories and SFPAs in 2020**



Sources: Flanders Marine Institute. 2019. Maritime Boundaries Geodatabase, version 11 and European Commission. 2020. *EU Sustainable Fisheries Partnership Agreements*. Publications Office of the European Union. Redrawn by Dan Hetherington.

European boat owners can also access fisheries using local registries and charter arrangements. There is an exclusivity clause that states that European-flagged vessels cannot obtain permission to fish outside of these agreements in a country where an SFPA is in place.<sup>19</sup> This has been a long-standing practice as evidenced in Spanish investments in Namibia (section 3.1.1) and in Latin America (section 3.3). For example, in the 2000s Spanish-owned tuna purse seiners included eight vessels flagged to Seychelles, at least five by Ecuador, four by El Salvador, and two by Guatemala, among others (Hamilton *et al.*, 2011). In each case, a domestic tuna processing industry provides a ready local market for this catch because of preferential access to European Union markets under trade agreements, and European Union rules of origin that allow for a combination of local flag and registration and European Union-ownership (Campling, 2017).

In the late 2010s and early 2020s, public attention has returned to European Union operators who use firms-to-government arrangements (EJF *et al.*, 2016). In 2017, a regulation on the sustainable management of external fishing fleets was introduced to facilitate more effective monitoring of all European Union flagged vessels' operations beyond European Union waters, regardless of the framework under which they operate in third country waters: SFPAs or firms-to-governments arrangements (European Commission, 2017).

<sup>19</sup> The exclusivity clause continues to be in force even where an SFPA is "dormant": this was the case for seven SFPAs in 2020: Equatorial Guinea, Federation States of Micronesia, Gabon, Kiribati, Madagascar, Mozambique and Solomon Islands (European Commission, 2020). This stops the European Union DWF from accessing the country's EEZ via an alternative access arrangement. See Teijo (2018).

According to the sustainable management of external fishing fleets, which establishes uniform eligibility standards for all European Union-flagged vessels, an EU Member State may only grant a fishing authorization to a fishing vessel for fishing outside of European Union waters if it has received accurate and complete information about the fishing vessel demonstrating that its operations are compliant with sustainable and legal fishing. The sustainable management of external fishing fleets also provides for the European Commission to maintain an electronic fishing authorisation database containing all fishing authorisations granted. Part of this database is publicly accessible, albeit information on the beneficial owners is kept confidential. European Union stakeholders (NGOs and industry) have recently called for such information to be made public. This, when there is an overriding public interest in the disclosure of information in the case of documented involvement in illegal, unreported and unregulated (IUU) fishing operations, corruption or money laundering.

However, the use of third-country registers by businesses domiciled in the European Union is not addressed by this new regulation. For instance, a dozen Soviet-era fishing boats with Cameroonian flags have allegedly engaged in unlawful activities in Cameroon while being owned or operated by businesses based in Belgium, Malta, Latvia and Cyprus. All these vessels target small pelagics (horse mackerel, mackerel, sardinella, sardine) along the whole Atlantic coast of Africa, transshipping in countries like Mauritania, Guinea-Bissau, Namibia or South Africa. These fish are also targeted by small-scale and artisanal fishers, and processed by women fish processors, in countries like Senegal or the Gambia. The unchecked activities of these vessels add to the excessive pressure put on these resources (see section 3.1).

### 2.3 China

China's distant-water fishing is the youngest of the examples provided, starting in 1985 when the China National Fisheries Corporation sent its first fleet to West Africa, targeting Gabon, the Gambia, Guinea, Guinea-Bissau, Mauritania, Morocco, Senegal and Sierra Leone. China also rapidly established a presence in Las Palmas (Spain) and then established a presence in Nigeria given that country's status as the largest market for fish products in Africa. Operations in Latin American waters were also commenced around this time with a focus on the waters of Argentina. The Western Indian Ocean (WIO) emerged as an area of interest for China in the late 1980s. China has rapidly moved from this small beginning to become a world fishing power, across the harvesting, processing and trading segments of the global seafood economy (Zhao, 2005; Yang, 2008; Zhang *et al.*, 2008; Shi and Gao, 2009; Mallory, 2013). Indeed, since the 1990s China has been the world's largest fishing nation in terms of volume of fish caught (Pauly *et al.*, 2014).

These developments have been driven by the crisis in China's near shore and immediate offshore fisheries, with the authorities of China seeking to increase fish output through aquaculture whilst re-deploying fishing fleets away from Chinese waters into foreign waters as part of a broad DWF expansion strategy. Like Japan before it, China also sees the development of its DWF as a major source of access to raw materials to contribute to the feeding of a domestic population, and moreover, as a means of earning convertible currency through export-oriented fish processing.<sup>20</sup> However, China is evolving in an era of the institutionalization of EEZs, unlike Japan and other DWFNs. China has a comparatively modest EEZ, miniscule on a per capita basis, which was a direct result of its absence as a maritime empire in the twentieth century – at least compared to Western Europe and the United States of America (Nolan, 2013). Beijing strongly aimed to convert China into a powerful distant-water fishing nation in the twenty-first century to close this gap.<sup>21</sup>

<sup>20</sup> The foreign exchange aspects of China's fisheries sector are discussed by Wei 2006 and Yang Zi-jiang 2009. Earning convertible currency was a key objective of expansion into distant-water fisheries in the 1980s, when the economy of China was emerging from the isolation of the Mao Ze Dong era. This aspect is much less important now.

<sup>21</sup> Opinions of [China's] Ministry of Agriculture Regarding the Promotion of the Sustainable and Healthy Development of the Distant-Water Fishing Industry (Nongyufa, 2012, No. 30), 11 July 2012.

Similar to Japan, the expansion of China of its deep-water fisheries is based on more than just fish. The construction of DWF is intended to provide jobs for its shipyards and to supply domestic fish firms with raw materials, particularly as they pursue export markets. The expansion of distant-water fisheries was part of the China Going Global strategy, which was introduced by Beijing in its Eleventh five-year plan (2006–2011). This strategy actively supports domestic businesses in their efforts to internationalize through a dual strategy of helping national champions compete on the global market and sourcing natural resources from other countries. The Thirteenth five-year plan for 2016–2020 continued the policy, which placed a strong emphasis on the expansion of high seas fishing and the processing of fish taken outside of its national waters (CCCCP, 2016). The Fourteenth five-year Plan for 2021–25, which promotes the idea of a double-development dynamic and places a priority on innovation, continues the pull factor in supporting China DWF. As a result, a number of domestic fishery logistics and processing centres focused on innovation and value addition have been developed. These new seafood complexes have high expectations for the amount of raw materials that will be shipped from its DWF to China (Ministry of Commerce of the People’s Republic of China, 2020; Godfrey, 2020a).

According to Chinese officials, due to the size of its DWF, market, and exports of fish products, China is now playing a greater role in ocean governance than previously dominant fishing nations like Japan and Spain. (Godfrey, 2018).

Ultimate management and control of China’s DWFs reside with the Bureau of Fisheries, within the Ministry of Agriculture and Rural Affairs. The Bureau of Fisheries, part of the Ministry of Agriculture and Rural Affairs, has ultimate management and control over China’s DWFs. The Beijing-based quasi-governmental China Overseas Fisheries Association (COFA) serves as a liaison between the government and fishing firms engaged in overseas fisheries and monitors many of China’s regulatory measures aimed at distant-water fisheries. All Chinese firms fishing outside of China’s EEZ, regardless of fishery, must be members of COFA in order for COFA to fulfil its goal. Despite being a NGO, COFA performs several government-like duties, such as running a vessel monitoring system centre for all DWFs flying the Chinese flag. Other COFA activities include aiding the DWF in international disputes when diplomatic resolutions are unfeasible, controlling fishing quota allocation, standing in for firms during international fishery access discussions, and attending RFMO meetings. COFA is essentially a filter that businesses must engage to access global fisheries. (Campling *et al.*, 2017).

According to COFA, China has formalized several of its 2 017 fisheries management strategies into formal fishing laws or regulations. Additionally, there are new requirements for DWFs, including as joining China’s global vessel monitoring system for international fisheries. All Chinese firms operating DWFs are required to undergo an annual government review to ensure they have complied with all relevant government regulations, and are in compliance with RFMO and other requirements. In practice, the Government of China has focused these laws mostly on smaller businesses involved in distant-water fishing in order to exert more control over their operations. Such close supervision is not considered as necessary with the large State-owned firms and private firms engaged in capital-intensive fisheries (Havice *et al.*, Lewis 2019). More recently, in 2020 the Ministry of Agriculture and Rural Affairs set out new regulations controlling China’s DWFs (Box 2).

**Box 2**  
**The control system of China over distant-water fishing**

The control system of China over its distant-water fishing fleet has the following key elements:

- The Order of the Ministry of Agriculture and Rural Affairs of the People's Republic of China No. 2 of 2020, setting out the 2020 Regulations on the Management of Ocean Fisheries (entry into force, April 1, 2020, and replacing the Ministry of Agriculture distant-water fishery supervisory regulation of 2003).
- Ministry of Agriculture (2010) Notice of the Ministry of Agriculture on implementing the monitoring of DWF positions.
- Circular of the General Administration of Customs and the Ministry of Agriculture on the Issuance of the Interim Management Measures on the non-taxation of self-caught fishery products shipped back by offshore fisheries enterprises (Department Taxation [2000] No. 260);
- Circular of the General Administration of Customs on the Delegation of approval authority for part of the tax deduction (Department Taxation, 2003, No. 5).

**The 2020 Regulations on the Management of Ocean Fisheries of the Ministry of Agriculture and Rural Affairs of the People's Republic of China**

Organised into 8 Chapters and 44 Articles, the Regulations on the Management of Ocean Fisheries set out the control framework within which Chinese fleets and their parent firms undertake long-distance fishing. Article 1 states that the Regulation falls under the Fisheries Law of the People's Republic of China and its related laws and administrative regulations.

The Regulation aims to improve the management of ocean fisheries, protect the legal rights and interests of the government, businesses engaged in ocean fishing, and their employees, conserve and sustainably use marine fishery resources, and encourage the healthy and sustainable growth of ocean fishing. Citizens of China, legal entities, and other organisations may engage in marine fishing on the high seas and in-waters under the control of other nations, as well as other fishery activities such as processing, replenishment, and product transportation, according to Article 2.

According to Article 4, in collaboration with other pertinent departments of the State Council, the Ministry of Agriculture and Rural Affairs of the People's Republic of China oversees the implementation of pertinent national laws and policies by ocean-going fishery firms as well as the planning, organisation, and management of the oceanic fisheries of China. The planning, organisation, supervision, and management of deep-sea fisheries (DSF) within their administrative region, however, falls under the purview of provincial fishery administrative departments. According to Article 4, the provincial administrative departments shall receive assistance from the municipal and county fishery administrations on topics pertaining to marine fisheries.

Article 5 indicates that in order to strengthen industry self-management and protect the lawful rights and interests of members, the Government of China encourages ocean-going fisheries firms to voluntarily create ocean-going fishery organisations in accordance with the legislation.

Article 6 gives the Ministry of Agriculture and Rural Affairs of the People's Republic of China the authority to implement a system of review and approval over offshore projects undertaken by ocean-going fisheries firms together with a programme of supervision over ocean-going fishing vessels and crews.

Article 7 provides that this system of examination and approval of offshore fisheries projects and firms qualification accreditation is handled through the offshore fishery management system at the Ministry of Agriculture and Rural Affairs of the People's Republic of China with each firm being granted an annual certificate of operation.

Chapters II (Articles 8 to 17) titled “Application and Approval of Offshore Fishery Projects” and Chapter III (Articles 18 to 19) titled “Qualification Recognition and Annual Examination of Jointly” set out an elaborate procedure for examination and approval of all offshore projects. The Ministry of Agriculture and Rural Areas Ocean Fishery Enterprise Qualification Certificate is granted in accordance with certain guidelines that are outlined in the two chapters. According to Article 18, this certificate entitles qualified businesses to take advantage of State support programs for ocean fishing in accordance with applicable laws. Article 19 calls for the certification of offshore fishery operations and projects to be reviewed annually and to be issued again. A condition of such renewal is provision of a detailed report on the implementation of the DSF project in the previous year. Only businesses that satisfy these requirements are eligible to participate in DSF activities and submit applications for the creation of DSF projects. The process entails interested organisations under the specified categories providing information to the Ministry of Agriculture and Rural Affairs of the People’s Republic of China on expected annual fishing fleet operations and related activities (area of operations, number of vessels, relationship to national economic plan and internal organisational plan, etc.). Following this, such operations are approved in accordance with the pertinent economic plan for that year, provided that the firm, fleet, or vessel master is not included on a blacklist maintained by Ministry of Agriculture and Rural Affairs of the People’s Republic of China.

The firm must have a legal fishing vessel that can be used for offshore fishing, among other requirements. It also needs to be financially stable to carry out project operations and manage unforeseen risks. Additionally, the firm needs full-time management staff that are knowledgeable about international conditions, as well as offshore fishing legislation and regulations. Finally, there should be no record of the DSF firm being disqualified by the Ministry of Agriculture and Rural Affairs of the People’s Republic of China in the three years prior to the application. This disqualification clause also applies to the project leader and the person in control of the business. In accordance with Chapter III, businesses and vessels must report to embassies in the nations and regions where fishing is practiced. The Regulations also address topics including ocean fishing vessels and crew (Chapter IV), work safety (Chapter V), and supervision and administration (Chapter VI). Chapter VII, the regulations, addresses fines that may be imposed on vessels and businesses that violate it.

### **Controls over IUU Fishing**

Articles 33 and 34 of the 2020 Regulations restrict IUU fishing and establish a negative list of firms, captains, and crews. Firms and natural individuals caught engaged in IUU fishing face prohibitions lasting between three and five years. According to the demands of international organisations, Article 35 establishes a global system for monitoring catch and location for vessels as well as a system of observers on vessels.

### **Public notification of vessels authorized to undertake long-distance fishing**

Since 2003, a consolidated list of authorized firms and vessels has been publicly available in the form of an officially titled “List of Qualified Distant Water Fisheries Enterprises”.<sup>1</sup> Currently, there does not appear to be a publicly available aggregated list. Instead, in terms of information that is publicly available (in Chinese), firms that receive the certificate of qualification of the Ministry of Agriculture and Rural Affairs Ocean Fishing Enterprises are listed in batches on the website of the Ministry of Agriculture and Rural Affairs of the People’s Republic of China. Each batch releases a document listing the qualified businesses, their permitted operating zones, and any related offshore fishing vessels, complete with names and permitted fishing types. The China Agricultural Development Group Co., the relevant customs offices directly under the central government, the autonomous regions and municipalities directly under the central government, the Fujian Provincial Bureau of Ocean and Fishery, the fisheries bureaus in charge of municipalities with separate plans, and the agricultural and rural departments (bureaus and commissions) of relevant provinces are the main targets of this notification. In Table 1, a list from 2020 is shown.

There are two general categories of vessel ownership in the distant-water fisheries of China:

1. Firms that are wholly or substantially owned by large State-owned firms either at the national, provincial or city level. Most are typically involved in multiple regions and fisheries. In recent years, some of the State-owned firms have divested specific activities related to fishing and created listed stock firms in which the State-owned firms retains a large or controlling interest; and
2. Private sector firms that can be either completely privately held or listed stock firms.

The largest Chinese firms that are engaged in marine fisheries have significant investments and activities in other fishing sectors as well, either directly or through networks of sister firms (Havice *et al.*, 2019).

COFA is often seen as the representation of China of its distant-water fisheries, but overall control and policy guidance remains within the Ministry of Agriculture and Rural Affairs. China adopted a limited-license system in 2001 (Miyake, 2005). The Ministry of Agriculture and Rural Affairs of the People's Republic of China issues fishing licenses to a firm in respect of its vessels, but such permission to operate is not attached to the vessel. The government implemented a consolidation policy specific to the nation's deep-water fisheries in 2013 to better manage the sector at the corporate level. The rule stipulates that vessels operating in distant-waters must be registered annually and pay a bond deposit of CNY 30 million (about USD 5 million) to cover six vessels or 2 000 gt. This requirement effectively forces smaller firms to come together as a group, pool their resources and cease to operate independently. This requirement is reportedly designed to prohibit larger firms from dividing into smaller ones and to make government oversight more effective. It also provides the government with the ability to better enforce certain requirements, considering that if one vessel in a group is caught contravening the law, all vessels in the group must stop operations until an investigation is completed (Campling *et al.*, 2017).

In relation to access arrangements and joint ventures in the 2000s, Chinese firms had arrangements and agreements in place with 38 states.<sup>23</sup> In the first decade of the twenty-first century, Chinese vessels were fishing in the Pacific of Argentina (Liu *et al.*, 2002); the Indian Ocean (Zhai and Huan, 2005; Zhu and Xu, 2006); the high seas of the North Pacific (Liu and Dai, 2007); the Central Western Atlantic (Le, 2003), where there has been some emphasis on West Africa<sup>24</sup> and Namibia (Han, 2009); and in the WCPO (McCoy and Gillett, 2005), where there is an increasing focus (Campling *et al.*, 2017; Havice *et al.*, 2019). The Chinese DWF relies on an elaborate system of agents representing Chinese firms in foreign countries (Deng and Han, 2006).

The official List of Qualified Distant Water Fisheries Enterprises does not appear to currently provide a publicly available aggregated list. The list of 159 vessels in Table 1 provides a snapshot of locations and gear types of China's DWF that qualified certificate in 2020 for the Ministry of Agriculture and Rural Affairs of the People's Republic of China. This list is very far from being comprehensive. For example, Global Fishing Watch estimates that in 2018 the Chinese DWF gained access to 111 EEZs in 96 states and territories, along 17 vessel classes. The Global Fishing Watch estimates that the Chinese DWF makes up 24 percent of the total distant-water fishing fleets active in OACPS EEZs in 2018 (28 percent in effort in kWh).

<sup>23</sup> See Ministry of Agriculture, The List of Qualified Distant Water Fisheries Enterprises in 2007 (accessed in 2007): <http://www.cnfm.gov.cn/info/display.asp?id¼376> (in Chinese).

<sup>24</sup> For an account of recent Chinese activity and historical background, see Kang (2004).

**Table 1**  
**Illustrative examples of Chinese firms qualifying in 2020 for a Certificate of Qualification of the Ministry of Agriculture and Rural Affairs Ocean Fishing Enterprises**

Project name	Project implementation unit	No. of boats	Operating fishing boat	Type	Start date	Deadline
Iran (Islamic Republic of)	Weihai Shiyuan Ocean Fishery Co., Ltd.	5	Lu Wei Yuanyu025, 026, 027, 028, 029	trawl	01/04/2020	31/12/2020
Madagascar	China Fishery Global Marine Food Co., Ltd.	4	JONOBE1, JONOBE2, JONOBE4, JONOBE5	trawl	01/04/2020	31/03/2021
		3	FANJAVA1, FANJAVA2, FANJAVA3	trawl	01/04/2020	31/03/2021
		2	MENABE8, MENABE9	trawl	01/04/2020	31/03/2021
Congo	Dalian Haixin Aquatic Products Water Co., Ltd.	1	Haixin 27	trawl	01/04/2020	30/09/2020
Guinea-Bissau	Wenzhou Dazhou Ocean Fishery Co., Ltd.	3	Continent1005, 1006, 1007	trawl	23/03/2020	31/03/2021
	Wenzhou Dazhou Ocean Fishery Co., Ltd.	3	Continent1001, 1002, 1003	trawl	23/03/2020	31/03/2021
	China Fishery Global Marine Food Co., Ltd.	4	SOLEIL7-10	trawl	01/04/2020	31/12/2020
		2	SOLEIL 51, 61 ( CNFC9514, 9515 )	trawl	01/04/2020	31/12/2020
		4	SOLEIL 65, 66, 67, 68	trawl	01/04/2020	31/12/2020
	Guangdong Ruishun Ocean Fishery Co., Ltd.	6	Ruishun 1, 2, 3, 6, 7, 8	trawl	17/04/2020	31/03/2021
Mozambique	China Fisheries Co., Ltd.	4	KRUSTAMOZ IV, V, VI, VIII	trawl	01/04/2020	31/03/2021
The waters of Puntland State, Somalia	Liaoning Daping Fishery Group Co., Ltd.	6	Liaodong Yu570, 571, 572, 575, 576, 577	trawl	01/04/2020	31/03/2021
Argentina	Zhejiang New Times International Fishery Co.,Ltd.	2	BORRASCA, ARGENOVA XXVI	Trawling (towshrimp)	01/04/2020	31/03/2021
Indian Ocean High Seas Tuna Project	China Water Group COSCO Co., Ltd.	2	Jinsheng 1, 2 1	Tuna Longline	01/04/2020	31/03/2021
Antarctic Krill Project	Fujian Zhengguan Fishery Development Co., Ltd.	1	Fuyuanyu 9818	Trawl processing	01/07/2020	30/09/2020

Project name	Project implementation unit	No. of boats	Operating fishing boat	Type	Start date	Deadline
North Pacific High Seas Trawling Project	China Fisheries Co., Ltd.	1	Xinyu 1	trawl	01/07/2020	31/03/2021
North Pacific High Seas Seine Project	Zhejiang Jurong Ocean Fishery Co., Ltd.	3	Dragon Gaya 2, 5, 6	purse seine	12/04/2020	31/03/2021
	Fujian Gangshun Ocean Fishery Co., Ltd.	6	Fu Yuanyu 672, 673, 675, 676, 677, 678	Light fence	20/04/2020	31/03/2021
	Rongcheng Ocean Fishery Co., Ltd.	2	Lu Rongyuan Yu 891, 892	Light fence	18/04/2020	31/03/2021
Squid Fishing Project in Indian Ocean High Seas	Yantai Ocean Fishery Co., Ltd.	4	Changshun 6, 7, 8, 9	Squid fishing	01/04/2020	31/03/2021
		2	Changshun No. 1 and No. 2	Squid fishing	01/04/2020	31/03/2021
		7	Lu Yan Yuan Yu 006, 007, 008, 009, 011, 016, 017	Squid fishing	01/04/2020	31/03/2021
	Zhejiang Hairong Ocean Fishery Co., Ltd.	5	<b>Han Rong</b> 356, 359, 361, 366, 369	Squid fishing	14/03/2020	31/03/2021
	Rongcheng Ocean Fishery Co., Ltd.	1	Lu Rongyuan Yuyun 998	Refrigerated transport ship	18/04/2020	30/09/2020
	Weihai Huanhai Aquatic Products Co., Ltd.	2	Weiyu 16, 19	Squid fishing	01/04/2020	31/03/2021
		1	Lu Wei Yuanyu 018	Squid fishing	01/04/2020	31/03/2021
		1	Lu Weiyuan Yuyun 777	Refrigerated transport ship	01/04/2020	31/12/2020
Squid fishing projects in the North Pacific, Southeast Pacific and Southwest Atlantic Ocean (including Argentina)	Zhejiang Jurong Ocean Fishery Co., Ltd.	4	Dragon Gaya 31, 32, 33, 34	Squid fishing	25/03/2020	31/03/2021
	Rongcheng Chishan Ocean Fishery Co., Ltd.	2	Lu Rongyuanyu 538, 539	Squid fishing	19/03/2020	31/03/2021
	Zhejiang Zhoushan Shunze Oceanic Fishery Co., Ltd.	1	Shunze 807	Squid fishing	16/04/2020	31/03/2021
	Zhejiang Zhoupu Ocean Fishery Co., Ltd.	1	Zhoupu 818	Squid fishing	24/02/2020	31/03/2021
Northwest Pacific High Seas Cololabis Project	Yantai Ocean Fishery Co., Ltd.	2	Changshun No. 2, Luyan Yuanyu 017	Side lift net	01/04/2020	31/03/2021
	Liaoyu Group Co., Ltd.	2	Liaoyu 8, 9	Side lift net	01/04/2020	31/03/2021

Project name	Project implementation unit	No. of boats	Operating fishing boat	Type	Start date	Deadline
Northwest Pacific High Seas Cololabis Project	Dalian International Cooperation Ocean Fishery Co., Ltd.	2	International 907, 908	Side lift net	01/04/2020	31/03/2021
	Penglai Jinglu Fishery Co., Ltd.	6	Lu Peng Yuan Yu 017, 018, 019, 027	Side lift net	01/04/2020	31/03/2021
	Wendeng Kun'an Aquatic Products Co., Ltd.	2	Lu Wenyuan Yu 171, 172	Side lift net	01/04/2020	31/03/2021
	Rongcheng Lianhai Fishery Co., Ltd.	2	Lu Rongyuan Yu 899, 998	Side lift net	01/04/2020	31/03/2021
		1	Lu Rongyuan Yuyun 777	Refrigerated transport ship	01/04/2020	31/03/2021
	Rongcheng Xinrun Aquatic Products Co., Ltd.	2	Lu Rongyuan Yu 179, 279	Side lift net	01/04/2020	31/03/2021
		2	Lu Rongyuan Yu 579, 679	Side lift net	01/04/2020	31/03/2021
	Qingdao Jincheng Ocean Fishery Co., Ltd.	1	Lujiao Nanyuan Yu 177	Side lift net	01/04/2020	31/03/2021
	Qingdao Zhongtai Ocean Fishery Co., Ltd.	4	Lu Huang Yuan Yu 105, 106, 107, 108	Side lift net	01/04/2020	31/03/2021
		2	Lu Huang Yuan Yu 115, 116	Side lift net	01/04/2020	31/03/2021
		2	Lu Huang Yuan Yu 117, 118	Side lift net	01/04/2020	31/03/2021
	Zhoushan Putuo Ocean Fishery Co., Ltd.	2	Tianxiang, Tianshun	Side lift net	01/04/2020	31/03/2021
	Zhejiang Xingpeng Ocean Fishery Co., Ltd.	1	Dongyu 1519	Side lift net	01/04/2020	31/03/2021
		2	Dongyu 1528, 1538	Side lift net	01/04/2020	31/03/2021
	Zhoushan Shunxing Oceanic Fishery Co., Ltd.	2	Directly 6, 8	Side lift net	01/04/2020	31/03/2021
		1	Direct 7	Side lift net	01/04/2020	31/03/2021
	Ningbo Yongfa Ocean Fishery Co., Ltd.	4	Yongfa 1, 5, 6, 7	Side lift net	01/04/2020	31/03/2021

Project name	Project implementation unit	No. of boats	Operating fishing boat	Type	Start date	Deadline
Northwest Pacific High Seas Cololabis Project	Ningbo Ouya Ocean Fishery Co., Ltd.	2	Eurasian 1, 19	Side lift net	01/04/2020	31/03/2021
		2	Eurasian 27, 28	Side lift net	01/04/2020	31/03/2021
	Fuzhou Zhongfan Ocean Fishery Co., Ltd.	1	Fuyuanyu 198	Side lift net	01/04/2020	31/03/2021
		1	Fuyuanyu 199	Side lift net	2020/4/1	31/03/2021
		2	Fuyuanyu 196, 197	Side lift net	01/04/2020	31/03/2021
	Zhoushan Jinhai Ocean Fishery Co., Ltd.	2	Gimhae 823, 825	Side lift net	01/04/2020	31/03/2021
	Tianjin Muyang Fishery Co., Ltd.	2	Tianxiang 57, 58	Side lift net	01/04/2020	31/03/2021
	China Agricultural Development Group Zhoushan Ocean Fishery Co., Ltd.	3	Mingmao, Minghua, Mingda	Side lift net	01/04/2020	31/03/2021
	Yantai Jingyuan Fishery Co., Ltd.	2	Jingyuan 616, 618	Side lift net	01/04/2020	31/03/2021
	Guangdong Zhanhai Ocean Fishery Co., Ltd.	2	Zhanhai 001, 002	Side lift net	01/04/2020	31/03/2021
	Guangzhou Taiyu Ocean Fishery Co., Ltd.	3	Yongxing 1, Haixing 1, Taixing 1	Side lift net	01/04/2020	31/03/2021

Source : Government of the People's Republic of China (MARA). 2020. *Notice of the Ministry of Agriculture and Rural Affairs on the issuance of the third batch of qualification certificates of the Ministry of Agriculture and Rural Affairs in 2020 and Confirmation of the first batch of offshore fishery projects in 2020. Ministry of Agriculture and Rural Affairs of the People's Republic of China. 23 April 2020.*  
[http://www.moa.gov.cn/nybgb/2020/202003/202004/t20200423\\_6342188.htm](http://www.moa.gov.cn/nybgb/2020/202003/202004/t20200423_6342188.htm)

The Overseas Development Institute study identified up to 16 966 vessels in China's DWF spanning the global ocean (Figure 3), with over 90 percent flying the Chinese flag (Gutiérrez *et al.*, 2020).<sup>25</sup> These statistics significantly differ from all previous estimates. China's claims over contested maritime territory (such as section 3.2.1) could suggest that China does not regard these vessels as DWFs and therefore may partially account for the mismatch. The vast majority were a particular subset of 12 490 vessels flying the Chinese flag that were outside of China's internationally recognized EEZ in the two-year period 2017–2018 but did not have any International Maritime Organization (IMO) or RFMO registrations. These vessels were identified by their active automatic identification system signals. Due to the absence of registrations, it is assumed that these vessels are part of a high seas fleet or operating in disputed waters, or both, and are not formally accessing the EEZs of other nations. Figure 3 shows that a large portion of the DWF is operating close to EEZ borders.

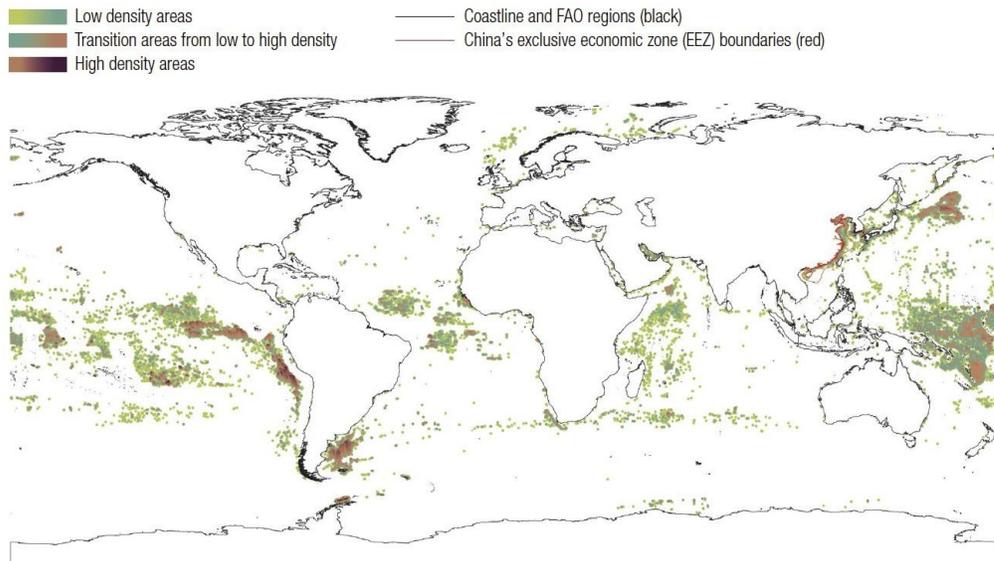
A second sub-grouping is of up to 3 541 vessels that might be associated with China's DWF either as a registered intention to fish overseas or in contact with Chinese enforcement agencies in circumstances that strongly imply engagement in DWF fishing. A third group consists of vessels with 56 different national flags that are alleged to have close ties to China through trade and supply chains (Gutiérrez *et al.*, 2020). Ghana, Mauritania, Côte d'Ivoire, Fiji, and Panama are the top five most frequent registries among this third group, accounting for 48 percent or 445 vessels. About regional focus of this third group, over half are registered in Africa, with most of them being trawlers in the coastal States of West Africa, representing 92.7 percent (see section 3.1.1) (Gutiérrez *et al.*, 2020). The authors discovered that trawlers were the most prevalent type of gear (38 percent), followed by tuna longliners (20.7 percent), squid-jiggers (13 percent), purse-seiners (7.5 percent), and others (20.9 percent), based on a sample of 4 798 vessels from the Overseas Development Institute survey (Gutiérrez *et al.*, 2020).

China uses a strategy of decoupled official development assistance to leverage resource access for its private firms and State-owned firms, including decoupled aid in return for discounted access (Belhabib, 2014). The rate of return to the coastal State on the ex-vessel price of the fish harvested, for instance, was higher under European Union conditions than for vessels from China, according to a comparison of access arrangements in West African EEZs. (Belhabib *et al.*, 2015a). The study suggests that decoupled official development assistance from China was used to leverage access arrangements on behalf of the private owners of the Chinese DWF, who benefited from the passing-through of the discounted resource access price. The broader dynamics of loans system of China introduces a number of questions for resource holders should they wish to adjust their access relations (Box 3).

The state provisions of China to its fishing industry are known to include support of overseas bases. The government's financial support for the establishment of bases has been primarily taken up by its longline industry, including bases in Palau, Yap, Pohnpei, Kosrae, Majuro and Apia, Samoa, and Kaichuang in Kiribati through a Fiji-based affiliate. Other Chinese fishing firms are looking for ways to participate in joint ventures, including shore-based development with the intention of gaining access benefits (Havice *et al.*, 2019).

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<sup>25</sup> The purpose of mentioning the study and associated figures is only to provide an overview of the magnitude of the DWF in the People's Republic of China. Please refer to important questions involving the methodology utilized in this study.

**Figure 3****Intensity of activity by the distant-water fishing fleet of China**

Source: Gutiérrez, M., Daniels, A., Jobbins, G., Gutiérrez-Almazor, G. & Montenegro, C. 2020. *China's distant-water fishing fleet: Scale, impact and governance*. ODI. London. Elaborated from the automatic identification system data provided by Vulcan's Skylight.

**Box 3****The implications of the loan diplomacy of China for fisheries access arrangements**

There is increasing attention on expanding fishing investments of China in developing countries. A possibly under-appreciated element of the potential influence of China in the fishing sectors of developing countries is its role as a dominant creditor nation. Financing from China to developing countries was fairly low until the global financial crash in 2008. But after that, there was a remarkable surge. Chinese state loans to developing countries are predominantly issued by two entities: the Export-Import Bank of China (China Eximbank) and the China Development Bank. A conservative estimate is that the total lending of China to developing countries increased from about USD 30 billion, in 2008, to about USD 350 billion by 2017. By 2014, the value of Chinese loans surpassed the amounts given by all of the Paris Club donors, and it was more than the value of loans provided by the World Bank (Horn *et al.*, 2020).\*

There are several aspects of this growing debt owed to China by developing countries that is generating scrutiny. According to a recent research by a group of organisations, including the Aiddata Project, most contracts for Chinese official loans include clauses that prohibit debtor countries to make any changes to regulations that affect the profitability of projects financed by China (Gelpern *et al.*, 2021). This includes not only changes that affect the specific project for which financing was given, but also changes that affect any other industry or spending with Chinese investments. Changes that are made by the debtor government that affect the profitability of Chinese investments can lead to compensation payments, including lower corporate taxes or levies imposed on Chinese firms, an extension of concessions for natural resource use, or direct monetary payments.

To add an extra level of security, the vast majority of Chinese official loans include an illegality clause: any legislative or policy changes that negatively affect Chinese investments will allow the creditor (e.g. Export-Import Bank of China and the China Development Bank) to declare the debts illegal, which requires the full amount, including interest, to be paid immediately. They prohibit changes in laws but also changes that are implemented through policy directives.

Developing countries with considerable loans from China will therefore face extreme difficulty in reforming fisheries access arrangements, if any proposed reforms threaten to impact China's fishing interests in a negative way. This dilemma is of particular concern in countries that have signed long-term fishing agreements with Chinese fishing firms, but are motivated to review these deals.

\*The value of these loans seems to be calculated as the annual disbursements, rather than as payments due, though it is very difficult to make such calculations because information on interest rates as well grants and other potential elements associated with the loans being opaque.

**2.4 Taiwan Province of China**

Under the authority of Japan, Kaohsiung in Taiwan Province of China was a significant industrial fishing port in the 1930s. Nevertheless, the development of its distant-water tuna longline fleet did not occur until the middle of the 1960s. (Haward and Bergin, 2000; Chen, 2008; Yeh *et al.*, 2015). The Government of Taiwan Province of China intensively promoted the industrialization of long-distance fishing throughout the developmental state period, which ran from the early 1960s to the 1980s, mostly as an export-focused sector. Initially, backed by Japanese shipyards, including the provision of low interest loans.<sup>26</sup> Taiwan Province of China also built its own steel-hulled longliners at a State-owned shipyard. Expansion of fishing capacity was supplemented by the purchase of second-hand vessels, including from Japan – a practice that the government no longer allows. Taiwanese distant-water tuna catches originally caught albacore and yellowfin tuna for canneries. However, throughout the 1970s, some of the fleet of Taiwan Province of China switched to catching for the Japanese sashimi market due to falling prices and the accessibility of ultra-low temperature technology. The fleet would take off in the 1980s and it would eventually overtake all others. (Lee and Pearson, 1987; Haward and Bergin, 2000; Chang *et al.*, 2010).

<sup>26</sup> Since then, bilateral relations have been administered by two non-governmental authorities (Yeh *et al.*, 2015).

The Government of Taiwan Province of China manages its commercial fisheries through the Taiwan Fisheries Agency. In 1989, the non-profit Overseas Fisheries Development Council (OFDC) was established to promote the global reach of Taiwan Province of China's distant-water fleet. It is funded by the Government of Taiwan Province of China and the industry. OFDC comprises small-scale longliners offshore, which includes striving for fishing rights and interests in international fora, assisting owners in fisheries disputes (such as boat detention), and the collection, analysis and sharing of information.

Taiwan Province of China's distant-water fisheries are composed of four different types of fishing gears: tuna longliners, tuna purse seiners, squid jiggers and saury stick-held dip net. The DWF vessels operate in and across the three major oceans. As of 2021, 619 Taiwanese tuna vessels are authorised to fish in the Pacific, 84 vessels in the Atlantic, and 277 vessels in the Indian Ocean. Around 100 squid and saury vessels, often licensed to catch both species with different methods, catch squid in the South Atlantic and Pacific, and saury in the North Pacific depending on the season (Figure 4). Currently, Taiwan Province of China engages in international fisheries relations under a unique status known as a fishing entity, as opposed to a state.

Access agreements are a significant component of Taiwan Province of China's foreign policy. They are significant in terms of international relations because they offer a means of promoting Taiwan Province of China's worldwide profile, in addition to demonstrating its leading position in the global fisheries industry. By transferring excess capacity abroad, distant-water fisheries can relieve home pressure on overexploited Taiwanese resources.

Individual industry associations handle most of the agreements with coastal States regarding access to the fisheries. Through the Organic Food Development Centre, the Government of Taiwan Province of China has been able to indirectly support the process. Helping fishing firms and vessel owners secure bilateral fishing agreements with coastal States is one of the main responsibilities of the Centre. Although the Centre is a private and a non-profit organisation, the government provides significant financial support. The board of directors includes representatives from industry associations for various types of fisheries as well as individuals appointed by the government, and the chair and vice-chair are government officials. (OECD, 2019).

An important function of the Taiwanese DWF industry associations is to act as a conduit of information between vessel owners and the government. The Taiwan Tuna Purse Seiners Association (TTPSA), which has its corporate headquarters in Kaohsiung, is made up of the 34 Taiwanese flag vessels of the purse seine fleet and the trade corporation. The basic responsibilities of the TTPSA include assisting in the organisation of vessel days under the VDS (section 3.4), arranging for the placement of observers, and working with PNA and its Members to coordinate on various topics. In addition, on behalf of and together with its member firms, the TTPSA engages in WCPFC debates and negotiations about fishery access.

#### Box 4

### International pressure on Taiwan Province of China and its response: a comprehensive law reform to embed responsible fishing

Since the early 2000s, Taiwan Province of China has faced increasing pressure from States and international NGOs to strengthen regulation of its fishing fleets around several concerns:

- non-adherence to international law on fisheries in general and IUU fishing in particular (EU, 2015);
- forced labour on vessels flagged or owned by nationals or firms of the Taiwan Province of China (Septian, 2017);
- overcapacity of Taiwanese tuna vessels as a contribution to the global overcapacity problem (Song *et al.*, 2008; Song, 2009); and
- the widespread use of flags of convenience vessel registration (ICCAT, 2004).

At a time when Japan was reducing its own capacity, Japan was among the first to call attention to the overcapacity of Taiwan Province of China in the tuna vessel sector. (Takase, 2004; Song *et al.*, 2008; Song, 2009; Yeh *et al.*, 2015). As the main consumer of sashimi-grade tuna caught in Taiwan Province of China, Japan was in a good position. Taiwan Province of China complied with numerous Japanese demands, including joining the Organization for the Promotion of Responsible Tuna Fisheries, a group whose members are fishing firms that periodically take joint action on issues related to market, management, and conservation.

By giving Taiwan Province of China a “yellow-card” warning based on a dossier of evidence indicating Taiwan Province of China was out of compliance, the European Union has exerted pressure to comply with its IUU legislation (2012–2019). Following the formal dialogue sparked by the yellow card, Taiwan Province of China and the European Commission collaborated to change Taiwanese law before the lift of the yellow card in June 2019.

Taiwan Province of China was included on the 2020 List of Goods Produced by Child Labor or Forced Labor compiled by the United States Department of Labor. Based on allegations that the vessel was involved in the exploitation of forced labour, the customs and border protection of the United States of America issued a withhold release order against a Taiwanese trawler in 2021 (Orlowski, 2019; Greenpeace, 2020; EJF, 2020).

Leading international NGOs have also drawn attention to Taiwan Province of China. Greenpeace and the Environmental Justice Foundation, for example, have conducted in-depth investigations and released high-profile reports on issues of forced labour and modern-day slavery, including alleged crew murders on Taiwanese-owned vessels. (Greenpeace, 2016; EJF, 2017).

The Government of Taiwan Province of China has implemented a variety of regulations and policies addressing these concerns since 2015, including:

- Act for Distant Water Fisheries (2016) and entering into force in January 2017;
- Act to Govern Investment in the Operation of Foreign Flag Fishing Vessels (2016) – this statute replaces a previous statute of the same name, first promulgated in 2008;
- Strategy Plan for Auditing Industry Related to Distant Water Fisheries (2016-2018); and
- National Plan of Action of Taiwan Province of China to prevent, deter and eliminate IUU Fishing (2013).

These new statutes and amendments to earlier ones are supported by a number of new regulations pertaining to distant-water fishing that were put into effect in 2018 and 2019. Measures to modernize out-of-date regulations and implement comprehensive new guidelines are aimed at the numerous associations of owners. The following are the main features of the new system:

- comprehensive revision of the legal framework of control over the DWF of Taiwan Province of China to align it with international law;
- application of the FAO Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA) to foreign-flagged vessels calling in Taiwanese ports;
- comprehensive incorporation of the conservation and management measures of RFMOs into Taiwanese law;
- strengthening of distant-water fleet monitoring and control tools, including a reinforced vessel monitoring system based on a globally functional electronic logbook working in real time;
- observer coverage in line with RFMO requirements and the development of an inspection scheme for both domestic and foreign ports;
- controls over investment in new vessels together with reduction of fleet numbers and rationalization of global operations;
- an enhanced traceability system based on audit principles and covering the whole supply chain; and
- the implementation of the updated rules, which now include reporting procedures for potential labour violations by firms of Taiwan Province of China flying foreign flags, new rules governing labour practices on flagged vessels of Taiwan Province of China, and requirements that investors of Taiwan Province of China obtain government approval before operating under a foreign flag.

Within the fisheries administration, an audit unit has been established to enforce and prove compliance with modifications. Officials from the fishing sector, experts in logistics and the supply chain, and certified public accountants make up this audit team. The following procedures are only a few examples of what is required by auditing standards:

- an industry self-managed code of conduct and set of operating procedures;
- catch-to-consumer traceability requirements both in and outside Taiwan Province of China;
- document maintenance and document retention requirements for up to five years; and
- education and training on IUU issues and anti-IUU practices.

The distant water Taiwanese Tuna Association (TTA) and the Taiwan Tuna Longline Association are the two trade groups that govern the longline fleet of Taiwan Province of China. Large-scale longliners with more than 100 gt are represented by the TTA – all steel hull boats). Firms are required by law to be members of this association. Although beneficial ownership of multiple boats may belong to one person, each boat is legally owned by a single firm for tax purposes and in accordance with firm law of Taiwan Province of China. Similar duties are performed by the Taiwan Province of China Deep Sea Squid Boat Owners and Exporters Association.

Fishing firms of Taiwan Province of China have devised a strategy to use flags of convenience to keep access to resources in EEZs. Since the 1990s, fishing corporations of Taiwan Province of China have purchased used Japanese fishing vessels and created firms under their flags outside Taiwan Province of China, notably in nations with abundant natural resources (Howard and Bergin, 2000; Ting *et al.*, 2012).

Based in resource holding countries but controlled by nationals of Taiwan Province of China, the vessels have a better access to affluent fishing grounds. Taiwan Province of China still has one of the highest numbers of flags of convenience vessels (238, as of 2021) operated by its nationals.

Another means of guaranteeing access to resources is to operate vessels under chartering agreements. To acquire the bigeye tuna catch quota in PICs, certain Taiwanese longline firms operate their vessels under charter agreements (Campling *et al.*, 2017). Thus, 24 tuna longliners are chartered to the Solomon Islands, one to Palau, and four to Tonga in the Pacific as of 2021, while nine longliners are chartered to Namibia in the Atlantic, two of which are targeting southern albacore and seven of which are targeting bigeye. The DWF vessels of Taiwan Province of China often operate outside of the EEZ area, and they primarily capture fish from the high seas despite the diverse techniques used by fishing firms (Ting *et al.*, 2012; Campling *et al.*, 2017). This is especially true when PICs introduced the VDS in 2007, which led to a sharp increase in the access costs to PICs' EEZs for tuna vessels (Liao and Huang, 2016). Due to tight profit margins and high operational costs, tuna longliners, in particular tiny tuna longliners under 100 GT, have steadily stopped fishing in EEZs, despite tuna purse seines being able to handle the rising fees.

**Tuna longliners (LL)** continue to fish mostly in high seas areas. Fiji, Kiribati, Papua New Guinea, Solomon Islands and Vanuatu used to be the fishing grounds for large-scale longliners (above 100 GT), while the Federated States of Micronesia, Palau and Tonga hosted more small-scale longliners (below 100 GT) in the Pacific Ocean in 2011–2015 (Campling *et al.*, 2017). In the Indian Ocean, 286 longliners (IOTC, 2019) were operating along the East African coastal line in 2018 while in the Atlantic Ocean, 84 longliners are permitted to fish in the area of ICCAT.

**Tuna purse seiners (PS)** operate only in the Pacific Ocean. Since 1982, the purse seiners of Taiwan Province of China have developed access agreements with seven PICs: the Federated States of Micronesia, Papua New Guinea, Kiribati, Tuvalu, Solomon Islands, Marshall Islands and Nauru (Liao and Huang, 2016).

The Federated States of Micronesia. In the 1980s, the TTA<sup>27</sup> and the Federated States of Micronesia signed an agreement. From USD 13 000 per vessel in the 1980s to USD 80 000 per vessel in 2005, the entry cost climbed over time. The access fee has gradually increased since the VDS was implemented in 2010, rising from roughly USD 1 875 per day in 2010 to PNA minimum benchmark price of USD 8 000 in 2015. However, as mentioned above (Box 1), firms frequently pay well above this price when demand is high, and the actual agreed price is not publicly available. The standard was significantly increased by 2021.

Papua New Guinea. In 1984, firms first signed a deal with Papua New Guinea. Subsequently, the Taiwanese signatory changed to TTA. In 2005, each vessel was charged USD 95 000 as an access fee. Even though the exact negotiated price is not publicly disclosed, the price for the VDS in 2014 reached the minimum of USD 8 000 per day.

Kiribati. An agreement between Kiribati and OFDC was initially signed in 1992, but the signatory changed to the TTA in 1999. In 2011, the access fee, which also includes a registration fee, an observer fee, and a port transshipment fee, increased from USD 65 000 per vessel in 1993 to USD 180 000. The entrance cost for 2015 increased to USD 10 000 per day, making it the highest among PICs at the time.

Tuvalu. The TTA and Tuvalu originally signed an agreement in 1994. The access fee in 2011 was USD 30 000 plus USD 5 000 for each vessel's observer. In 2014, Tuvalu charged USD 6 000 per day under VDS.

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<sup>27</sup> The distant-water Taiwan Province of China longline fleet is organised into two industry associations: the Taiwan Tuna Association (for large-scale vessels) and the Taiwan Tuna Longline Association (for small-scale vessels).

Solomon Islands. In 1997, private businesses first signed a chartering agreement and Solomon Islands used it to collect a collaboration fee of USD 75 000 per vessel. Later, in the 2000s, the access fee also included a license fee, an observer fee, and five to seven percent of the catch if it exceeded USD 15 000 in worth. The access fee increased from USD 5 000 per day to USD 8 000 per day in 2015 once the VDS was implemented.

Marshall Islands. The TTA and the Marshall Islands initially signed an agreement in 1998. In 1998, the access fee per vessel was USD 8 000, plus 5 percent of the value of the catch, an observer fee, and a registration fee. In 2010, this fee was raised to USD 41 000 per vessel. For 306 fishing days in 2014, the Marshall Islands charged USD 6 000 per day.

Nauru. The TTA initially signed an agreement in 1998. Prior to VDS, there was a USD 30 000 entry fee as well as a USD 200 observer fee for each vessel. In 2014, Nauru charged USD 6 000 per vessel under the VDS.

The Falkland Islands (Malvinas) EEZ and the open seas are the main operating areas for squid jiggers. Licensed squid jiggers from Taiwan Province of China and the Republic of Korea, which made up 67 percent and 24 percent of landings in 2017 respectively, land nearly 90 percent of the squid captured in the Falkland Islands (Malvinas) (Harte *et al.*, 2019). Despite some changes over time, the landing data reveals that Taiwanese jigger average landings from the high seas were typically greater than those from the Falkland Islands (Malvinas) (approximately 420 000 tonnes from the high seas and 190 000 tonnes from EEZs in 2014). The Taiwan Squid Fishery Association typically takes the lead in access discussions with the Falkland Islands (Malvinas).

**Saury stick-held dip net** operate mainly in the high seas in the North Pacific, whereas vessels of the Republic of Korea are permitted to fish in the EEZs of the Russian Federation. Catch quotas of saury in the high seas are allocated via the North Pacific Fisheries Commission.<sup>28</sup>

Overall, industry associations with cooperation from OFDC have facilitated the process for Taiwan Province of China to engage in fisheries access arrangements. Particularly for tuna fisheries in the Pacific, the arrangements' structure has changed from a per-vessel access fee to include additional administrative fees, observer fees, supplies and services, registration fees, and a portion of the harvest value (Liao and Huang, 2016). Over time, there has also been an increase in the per-vessel admission fee. The price that Taiwanese businesses pay has increased since the Pacific islands adopted the VDS. For instance, Taiwanese purse seiners purchased USD 7.3 million on almost 7 500 fishing days in 2015. (Liao and Huang, 2016).

The access arrangements of Taiwan Province of China can be regarded as first-generation arrangements. Despite having made investments in facilities and sharing ownership with some PICs, Taiwanese businesses are conservative in their attitudes regarding the transfer of ownership to PICs or joint ventures and favour charter arrangements. (Liao and Huang, 2016). The impact of PNA VDS and the need to access VDS days (section 3.4), particularly under the Federated States of Micronesia Arrangement, has resulted in nearly 90 percent of the beneficially-owned Taiwanese purse seine vessels being registered in PNA Members. This compares with just 28 percent a decade ago, when most (18) were registered in Vanuatu, a non-PNA Member (Havice *et al.*, 2019). Taiwanese firms are also involved in the United States of America purse seine fleet through investments in boats (see section 2.6).

The Government of Taiwan Province of China does not proactively seek measures to enhance fisheries access for the industry, despite the occasional provision of some funds to PICs for monitoring, control

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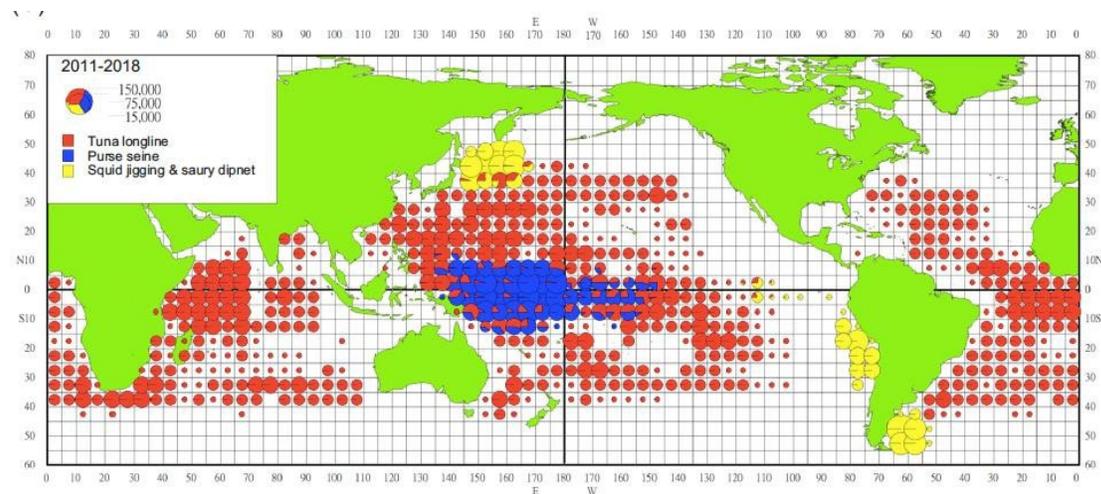
<sup>28</sup> The member States of North Pacific Fisheries Commission are Canada, China, Japan, Republic of Korea, the Russian Federation, Taiwan Province of China, the United States of America and Vanuatu. Recently there was a dispute over saury quota between Japan and Taiwan.

and surveillance, technology transfer, and support for the fisheries sector.<sup>29</sup> In squid fisheries, local firms in the Falkland Islands (Malvinas) have no experience operating jiggers, and prefer to have an arms-length relationship with Taiwanese and Korean jiggers as local agents rather than active partners in the fishing firms (Harte *et al.*, 2019).

In general, the aid of Taiwan Province of China is more related to its broader foreign diplomacy. Due to Taiwan Province of China's unique diplomatic status, it has utilised its decoupled official development assistance strategically to strengthen relations with its diplomatic allies (MOFA, 2009). Given that the Marshall Islands, Nauru, Palau, and Tuvalu are four of the remaining 15 diplomatic allies of Taiwan Province of China, these PICs are among the principal recipients of Taiwanese aid. (Taiwan ICDF, 2019). Compared to the official development assistance of China, investing heavily in large-scale infrastructure projects in PICs, often as a form of concessional loans (section 2.3), the aid of Taiwan Province of China is relatively small and focuses on technical assistance in agriculture and health, government scholarships and more modest infrastructure investments.

The operation of Taiwanese vessels is governed by the Act for Distant Water Fisheries. The 2016 modification to the Act and its implementing regulations provide that Taiwanese corporate firms seeking DWF licenses to operate vessels under flags of convenience must first receive government authorisation. Since 2020, the DWF licensed vessel list (including chartered vessels) and the flag of convenience vessel list both have been made available online by the Taiwanese Fisheries Agency. However, the DWF licensing list does not include the EEZs in which each vessel is authorised to operate.

**Figure 4**  
**The catch distribution of the three major distant-water fisheries of Taiwan Province of China, 2011–2018**



*Source:* Huang, C.-C., Chang, S.-K. & Shyue, S.-W. 2021. Sustain or phase out: Transformation of Taiwan's management scheme on distant water tuna longline fisheries. *Marine Policy*, 123.

<https://doi.org/10.1016/j.marpol.2020.104297>

<sup>29</sup> Taiwan Province of China provided a total of USD 2 million over five years to support SIDS fisheries development. See Liao and Huang (2016:73).

## 2.5 The Republic of Korea

The distant-water fisheries of the Republic of Korea began in the Indian Ocean with one vessel in 1957, expanded to the Pacific Ocean the following year, and has been in the Atlantic Ocean since 1967 (WCPFC, 2019). The longline fleet of the Republic of Korea was formed as an export-oriented sector to supply the fast expansion of Japan and the sashimi market. The growth of the fleet was partially supported by Japanese trade firms (*sogo shosha*), for whom the fleet supplied a diverse source of fish for its Japanese customers (Comitini, 1987; Haward and Bergin, 2001; Chang *et al.*, 2010). In addition, from 1963 to 1979 the government supported it and this support remained through 1990s and 2000s (MyongSopa and MoonBae, 2002; MRAG *et al.*, 2016). Chaebols, family-controlled corporations such as Dongwon Industries, Hyundai, and Samsung, were boosted by State support. For example, the Dongwon Group was split into two organisations at the end of 2004 – financial and food.

The combination of foreign funding and internal support enabled the Republic of Korea to become one of the world's premier DWFs, directly competing with Japanese vessels. In terms of catch, the DWF of the Republic of Korea reached its zenith in the early 1990s, after experiencing fast expansion. In the early 1970s, it was the first to utilize deep longlines in the Pacific and Indian Oceans, which the Japanese fleet quickly imitated (Ward and Hindmarsh, 2007). The combination of foreign finance and domestic support contributed to making the Republic of Korea among the world's leading DWFs, competing directly with Japanese vessels. The DWF of the Republic of Korea during its golden age, tuna longliners and trawlers were the predominant fishing vessels. However, the number of vessels has decreased significantly from over 800 in the 1970s to under 200 in 2019. As of 2019, 205 Republic of Korea-flagged vessels were authorised to operate in and throughout three Oceans, including 109 tuna longliners, 28 tuna purse seiners, 29 squid jiggers, 10 saury vessels using stick-held dip net, 17 trawlers, and 12 bottom longliners operating in Antarctic waters (KOFA, 2020).

The Korea Overseas Fisheries Association (KOFA) represents the fleet of the Republic of Korea operating in distant-water fisheries. In 2008, the Article 28 of the Distant Water Fisheries Development Act established KOFA as a special legal organisation to support industrial development. Similar to OFDC (Taiwan Province of China) or COFA (China), where its primary function is to act as a conduit between the government and fishing firms engaged in international fisheries. However, unlike OFDC or COFA, KOFA does not carry out government functions like as the vessel monitoring system, nor does its board include government employees. KOFA representatives have always come from the fishing industry. Due to its unique relationship with the Ministry of Oceans and Fisheries, KOFA also receives funding from the Ministry of Oceans and Fisheries. As of the end of 2019, the Republic of Korea DWF maintains 21 foreign bases in 17 coastal States. Tuna purse seiners of the Republic of Korea utilize the foreign bases in Tarawa, Kiribati, Funafuti, Tuvalu, and Pohnpei, the Federated States of Micronesia, as their primary ports in the Pacific Ocean. In the Indian Ocean, tuna purse seiners frequently use Victoria in Seychelles and Port Louis in Mauritius. And in the Atlantic Ocean, squid vessels utilize Stanley in the Falkland Islands (Malvinas) and Montevideo in Uruguay, which also serves as a base for Antarctic-bound bottom longliners.

The EEZs of Republic of Korea DWFs known to operate in the 2010s were:

- in the Pacific Ocean: the Russian Federation and PICs;
- in the Atlantic Ocean: Angola, Namibia, the Falkland Islands (Malvinas), Gabon, Guinea, Guinea-Bissau, Sierra Leone, Suriname; and
- in the Indian Ocean: Madagascar, Mauritius, Seychelles.

Since 1980, the Republic of Korea has signed bilateral fisheries agreements with 13 coastal States (MOF, 2018a): Australia, China, the Cook Islands, Ecuador, the Federated States of Micronesia, the Islamic Republic of Iran, Japan, Kiribati, Mauritania, Papua New Guinea, the Russian Federation,

Solomon Islands and Tuvalu. In recent years, however, DWFs has only operated in the EEZs of PICs and the Russian Federation (MOF, 2018a). In the case of tuna access in the EEZs of PICs, the majority of the actual annual negotiations take place between the Republic of Korea industry and the coastal States. Despite the government-to-government fisheries agreements establish the overall basis for terms and conditions. Moreover, the government leads all annual access discussions for the EEZs with the Russian Federation. Individual corporations negotiate access to EEZs for all other vessels, including demersal trawlers and squid jiggers.

The EEZs of Kiribati, Solomon Islands and Tuvalu were major fishing grounds for tuna longliners until 2015 (Campling et al., 2017), even though a growing proportion of tuna catches have been caught in the high seas rather than within EEZs. Since 2017, when the VDS was adopted for longlines in several PICs, most of the tuna longliners of the Republic of Korea have operated in the high seas of the Pacific Ocean. As of 2019, 16 longliners were permitted to fish in the ICCAT region, whereas 10 longliners operate in the Indian Ocean Tuna Commission (IOTC) region (IOTC, 2020).

Most of the tuna purse seiners operate in the Pacific Ocean, particularly in EEZs of the Federated States of Micronesia, Kiribati, the Marshall Islands, Nauru, Papua New Guinea, Solomon Islands, and Tuvalu (MOF, 2018a). As of 2019, just two purse seiners operate in the Indian Ocean, while no one fish in the Atlantic Ocean (IOTC, 2020).

Recent access negotiations with PICs include:

- The Republic of Korea–Kiribati fisheries access negotiation in 2019/20: access secured for 26 purse seiners;
- The Republic of Korea–Solomon Islands fisheries access negotiation in 2019: access secured for 25 purse seiners;
- The Republic of Korea–Tuvalu fisheries access negotiation in 2020: access secured for 26 purse seiners;
- The Republic of Korea–the Federated States of Micronesia fisheries access negotiation in 2019: access secured for 26 purse seiners; and
- The Republic of Korea–Nauru fisheries access negotiation in 2020: access secured for 26 purse seiners.

Since the Republic of Korea–Russian Federation Fisheries Agreement was signed in 1991, the Government of the Republic of Korea has led annual access discussions with the Russian Federation.

In the Republic of Korea, domestic demand for Alaska pollock is quite strong, whereas domestic fisheries capturing the species in coastal seas have virtually collapsed due to years of overfishing. Since 2010, the EEZs of the Russian Federation have remained the sole fishing area for trawlers of the Republic of Korea targeting Alaska pollock (MOF, 2018a). Initially, the Agreement supported a two-track quota allocation mechanism, with one track for commercial quota allocation and another for government quota allocation. In 2001, when the Government of the Russian Federation implemented a bidding system in which only Russian nationals could participate, the private allocation of quotas to Korean firms was eliminated. In order to participate in the bidding processes, the regulation has compelled Korean fishing firms to joint ventures in the Russian Federation. The allocation of government quotas is determined by annual negotiations between governments. While negotiating pollock quotas, the Government of the Russian Federation has regularly sought Korean investment in processing and storage facilities (MOF, 2018a). The Republic of Korea was allotted 46 700 tonnes of Alaska pollock, cod, squid and saury at the Twenty-ninth negotiation Commission between the Republic of Korea and the Russian Federation, held in 2020 (MOF, 2020).

In the EEZs of the Russian Federation and the Bering Strait, North Pacific trawlers may fish Alaska pollock. In the North Pacific Ocean in the late 1980s, around 40 trawlers caught between 300 000 and 500 000 tonnes per year (MOF, 2018a). However, since a bilateral agreement was struck between the Republic of Korea and the Russian Federation in 1991, the fishing has decreased significantly. As of 2018, only three Korean trawlers remain in operation, but 22 vessels belonging to ten Korean firms operate through joint partnerships (MOF, 2018a).

Demersal trawlers operated were located in Las Palmas (Spain) until 2013 when the European Union issued an IUU yellow card to the Republic of Korea. The main EEZ fishing areas of Angola, Guinea, Guinea-Bissau and Sierra Leone (MOF, 2018a), and some vessels operated in the EEZs of Indonesia, New Zealand, Oman and Somalia in the Indian and Pacific Oceans. In the majority of instances, private individual access agreements were established. As a consequence, the number of trawlers has decreased significantly over time, from 89 in 2014 to 13 in 2019. (MOF, 2018a). In response to the yellow card of the European Union, the Government of the Republic of Korea has increased the monitoring, control and surveillance measures on vessels flying the Republic of Korea.<sup>30</sup> In 2014 and 2015, all Korean trawlers ceased operations in Indonesia, Oman and New Zealand.

The year 1978 marked the beginning of squid jigger operations in New Zealand, followed by the Falkland Islands (Malvinas) in 1984, Peru in 1990, and eventually the high seas of the North Pacific. Squid jiggers were entirely removed from New Zealand in 1997, and the primary squid fishing grounds have remained the EEZs of the Falkland Islands (Malvinas). The catch landed by Korean squid jiggers in the Falkland Islands (Malvinas) is second only to that of Taiwan Province, China (Harte *et al.*, 2019). In 2016, 29 squid jiggers were in operation, with four to five jiggers moving to the high seas around Peru for two to three months after the Falkland Islands (Malvinas) fishing season ends (MOF, 2018a). The remainder squid jiggers have relocated to the North Pacific to fish for saury. Depending on the season, squid and saury vessels are frequently licensed to capture both species using distinct methods.

In general, individual firms have assisted the fisheries access arrangements of the Republic of Korea, despite that government-to-government fisheries agreements have been reached with all coastal States except the Russian Federation. The Government of the Republic of Korea's official development assistance for fisheries has been limited, totalling roughly USD 160 million between 2010 and 2020. In 2011, the Ministry of Oceans and Fisheries had an aid budget of USD 900 000, which climbed to USD 8.5 million in 2018. However, it represents only 0.3 percent of the total official development assistance expenditure (MOF, 2018b). In the 2000s, the Economic Development Cooperation Fund, a lending agency for developing nations, has only one fisheries-related project: the construction of fishing vessels in Angola to ensure access to fisheries. In 2017 and 2018, two additional financing projects to construct fish processing facilities and refrigerated storage were initiated in Angola and Senegal. These loans are reported unrelated to the Korean DWF access to the waters of its official development assistance beneficiaries.

In the Pacific, additional fees, observer charges and service fees are assumed to be added to the per-vessel access fee, as also observed in the case of Taiwan Province of China. Due to the hefty access costs imposed by VDS, tuna longliners have ceased fishing in EEZs in the Pacific, but tuna purse seine businesses have maintained annual access discussions with PICs. In 2019, Korean purse seiners purchased 25 or 26 access vessels for around USD 95 million (KOFA, 2020). The Government of the Republic of Korea has taken the lead in fisheries access negotiations with the Russian Federation. During 2019 and 2020, the access fee for Alaska pollock stabilised at USD 375 per tonne (MOF, 2020). In 2013, an incident of IUU fishing, and the consequent re-flagged and decommissioned of vessels nearly halted the expansion of private access-based trawl fisheries.

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<sup>30</sup> The Ministry of Oceans and Fisheries planned to make bilateral agreement with five States, including Angola, Guinea, Guinea-Bissau, Senegal and Sierra Leone in 2014. However, due to the dramatic reduction in the number of vessels operating in those waters (presumably only two are operating in Guinea) the plan does not seem to be pursued any more.

The access arrangements of the Republic of Korea can be regarded as a combination of first and second generation arrangements. Joint venture arrangements have been pursued primarily in the Russian Federation, due to the Government of the Russian Federation's policy to restrict private quota allocation to its nationals.

The Korean maritime industry is overseen by the Distant Water Fisheries Development Act. Article 5 of the Act requires joint ventures that operate vessels in distant waters to file a report with the Ministry of Oceans and Fisheries. The Ministry has not yet published a list of permitted Korean-flagged vessels, although it is expected to be available due to a 2020 amendment of the government requiring its publication.

## **2.6 The United States of America**

The tuna fleet of the United States of America has long been an active operator in distant waters. In the post-Second World War era, the fleet initially fished off the coast of the United States of America in the Eastern Pacific and eventually throughout the entire region to feed the expanding tuna canning business. In the 1970s and 1980s, the Navy of the United States of America began to extend purse seine fishing into WCPO in order to capitalize on the region's vast tuna fisheries and dodge increasing regulatory restrictions in the Eastern Pacific. At the beginning of the 1980s, around 55 American purse seine vessels were fishing in WCPO.

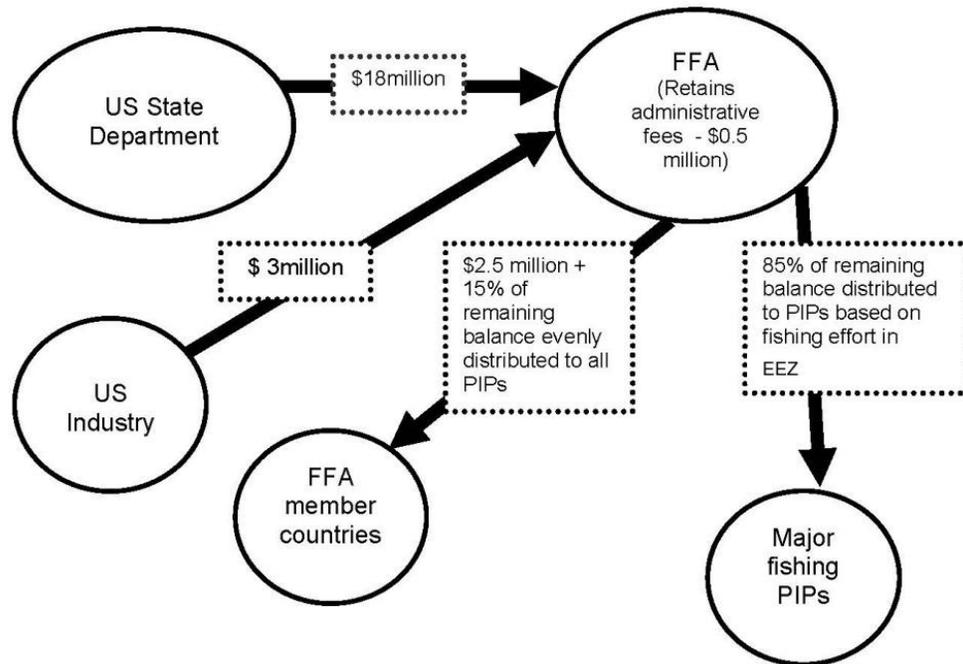
As PICs began charging access fees following the establishment of EEZs in the late 1970s, the Government of the United States of America and fleet actively resisted individual coastal State claims over tuna in their EEZs on the grounds that tuna are a highly migratory species that cannot be managed or regulated by a single State. However, the United States of America remained receptive to cooperative access agreements that complied with domestic legislation regulating transboundary fisheries. American Tuna Association, the industry association for tuna vessel owners in the United States of America, signed multilateral access agreements with various PICs in the early 1980s. However, the agreements were not renewed because of concerns regarding the compliance of the United States of America and the worth of access.

When Kiribati achieved an access agreement with the Soviet Union in 1985, the Government of the United State of America and industry began to negotiate access in earnest for American fleets. The outcome was the South Pacific Tuna Treaty (henceforth, the Treaty), an international agreement between the American Navy, the United States Department of State, and Members of the Pacific Islands Forum Fisheries Agency (FFA).<sup>31</sup> Between the 1980s and early 2000s, up to 45 American-flagged vessels utilized the Treaty to secure unlimited access to fish in the Pacific Island Parties' waters in exchange for licensing fees paid by industry and a development assistance package provided by the United States Department of State and shared by the Pacific Island Parties (Figure 5).

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<sup>31</sup> For current details on the South Pacific Tuna Treaty, see: <https://2009-2017.state.gov/r/pa/prs/ps/2016/06/259201.htm>

**Figure 5**  
**The structure of the United States Treaty, circa 2004**



*Source:* Authors' own elaboration.

Since the early 2000s, DWF of the United States of America has fluctuated in size, reflecting and influencing the changing geopolitical economy of access relations. The purse seine fleet of the United States of America began to decrease as vessels abandoned the American flag for cheaper cost registrations; by 2007, only 11 vessels remained out of the previous fleet of 45.

However, conditions of access to EEZs of the WCPO skipjack fishery modified in the late 2000s. Eight PICs that are Members of PNA have undertaken a significant move from a paradigm of licensing vessel numbers to one of licensing vessel days under their VDS (see Box 1 and section 3.4). According to the Treaty, this sparked a fresh interest in the American flag in order to get access to PNA EEZs.

The VDS upended licensing practices in the region and precipitated a quick increase in the access fee for PNA EEZs that all purse seine fleets outside the Treaty were required to pay. The Treaty was exempt from the VDS terms and conditions because it was negotiated over a period of ten years, from 2003 to 2013. As other fleets began to scurry to gain fishing rights under the new VDS, vessels using the Treaty continued to be awarded unlimited fishing days (Havice, 2013). As a result, Taiwanese and Korean interests formed joint ventures with nationals of the United States of America in the early 2010s, utilizing vessels flying the American flag, in order to take advantage of the secure fishing allowed by the Treaty. With these increased investments in the flag, the American fleet stabilized between 2010 and 2019 at roughly 34 vessels. During this time period, Pacific Island Parties, particularly PNA Members, attempted to revise the conditions of the Treaty in order to accommodate the altering nature of access under VDS. In order to respond to the changing terms of access in WCPO, the Treaty has been significantly revised through a series of interim agreements and, most recently, a re-envisioned six-year arrangement.

The existing Treaty stipulates access conditions for the years 2017 through 2022. It is the result of intense series of discussions between 2013 and 2016, which nearly led to the Treaty's collapse. The resultant amended Treaty is structurally distinct from preceding arrangements and contains a number of defining characteristics (Table 2):

- The annual payment from the Government of the United States of America has remained at USD 21 million. This aid mechanism is an integral part of the United States of America diplomatic engagement in the region.
- The most major changes concern the distribution and cost of vessel days. The pre-2013 Treaty agreements permitted the American fleet to fish across the region without restriction. In the current structure, the American fleet may acquire up to a predetermined number of fishing days at a predetermined price. In addition, the present Treaty allocates fishing days to specific geographic areas arranged by EEZ or group of EEZs, as opposed to utilizing fishing days throughout the region.
- Since the interim accords, when the overall number of fishing days peaked at 8 300, the total number of fishing days provided under the Treaty has decreased significantly. By the end of the present Treaty in 2022, the American fleet will be allowed to purchase a total of 3 490 fishing days. The American fishing fleet is not required to purchase every available fishing day.
- American vessels are able to purchase non-Treaty days offered by a Pacific Island Party or group of Pacific Island Parties, regardless of whether or not their official Treaty days have been exhausted. The price of non-Treaty days purchased by American vessels is negotiated on an individual basis and is not governed by the Treaty.
- The industry of the United States of America and Pacific Island Parties agreed to establish the fishing day pricing for the first four years of the six-year agreement. The vessel day rate was set at USD 12 500 per day for the first 2 years (2017 and 2018) and increased to USD 13 500 per day for years 3 and 4 (2019 and 2020). These numbers exclude the United States Department of State's development assistance payment, which is governed by a separate legal arrangement. The price of fishing days was to be renegotiated for Treaty years 5 and 6 (2021 and 2022).
- The American fleet must now comply with the national laws of each Pacific Island Party, whereas the Treaty formerly provided an overarching legal and operational structure.
- While the Treaty days remain the principal source of access for the fleet, it is estimated that the fleet has purchased one bilateral day for every three Treaty days in recent years. Bilaterals are reported with Kiribati, a historically significant fishing ground for the fleet, which is currently restricted to 300 days under the Treaty framework and with the Cook Islands (which does not participate in VDS), among others. Additionally, the American Tunaboat Association established an access agreement between American-vessel owners and the Cook Islands. The bilateral option allows the fleet to negotiate the cost and location of day charters. Nonetheless, it imposes new administrative costs on vessel owners who have umbrella access under the Treaty (Havice *et al.*, 2019).

**Table 2****The United States of America Treaty: Structure of and Payment for Access of the United States of America to FFA Waters, 1988-2022 (in USD)**

Year	US Government	US Industry	Total	Fishing effort permitted
1988–1993	USD 10 million	USD 2.25 million	USD 12 million	35–40 vessels minimum, 50 vessel maximum Unlimited fishing in FFA country EEZs
1993–2003	USD 14 million	USD 4 million	USD 18 million	50 vessels, 5 additional for joint ventures Unlimited in FFA country EEZs
2003–2013	USD 18 million	USD 3 million	USD 21 million, USD 45 million (2012) <sup>32</sup>	40 vessels, 5 additional for joint ventures Unlimited fishing in FFA EEZs
Interim 1: June 2013–2014	USD 21 million	USD 42 million	USD 63 million/year USD USD 94.5 total for 18-month period	8 300 fishing days total 8 000 in PNA EEZ 300 in fishing in non-PNA EEZ
Interim 2: 2015	USD 21 million	USD 69 million	USD 90 million	8 300 fishing days total: 4 964 in PNA EEZs (minus Kiribati) 2 737 pooled days in PNA EEZs (minus Kiribati and Palau) 300 days in Kiribati EEZ 300 days in non-PNA EEZs
Interim 3: 2016 Collapsed	USD 21 million	USD 68.3 million	USD 89.3 million	6 550 fishing days total: 5 700 in PNA EEZs (minus Kiribati) 300 in Kiribati EEZ 250 days in Cook Islands EEZ 300 days in Fiji, Niue, Samoa, Tonga and Vanuatu No fishing in two high seas pockets
2017–2222	USD 21 million	Up to USD 42.8–47.3 million (2017–2020)	Up to USD 63.8–68.3million (2017–2020)	3 200 declining to 2,240 in PNA EEZs (minus Kiribati) 300 days in Kiribati EEZ (2017-20) 350 days in Cook Islands (2017-22) 600 days/year in Fiji, Niue, Samoa, Tonga, Vanuatu

Until 2020, the newly revitalized American fleet consisted of two distinct parts: the old fleet and the new fleet, each with its own operational procedures. To be closer to its principal unloading site in Pago Pago, American Samoa, where Starkist's (owned by parent firm Dongwon) huge processing plant packs canned and pouched tuna for the United States (US) market, the old fleet typically fished further east in the WCPO. Based on a transshipment concept, the new fleet fished across the WCPFC region and transported their catch to processing plants in Thailand, the rest of Asia, and occasionally Latin America. Approximately 60 percent of the fleet's total catch was delivered in 2017. (WCPFC, 2019).

<sup>32</sup> The jump to USD 45 million occurred following Papua New Guinea's threat to pull out of the Treaty.

In 2021, parties to the Treaty began to explore its possible future form beyond 2022. However, the future remains uncertain. By the beginning of the 2020s, about 14 vessels had abandoned the American flag, citing a lack of competitiveness due to high operating costs. In 2021, the American purse seine fleet consisted of 20 vessels, all of which belonged to the old fleet and the bulk of which primarily fished in WCPO in accordance with the Treaty.<sup>198</sup> Stabilization of the fleet at 20 vessels (relatively low compared to historical numbers of vessels using the Treaty annually) and a growing pattern of bilateral access negotiations outside the Treaty framework coincide with the upcoming 2022 expiration of the Treaty and raise questions about the Treaty's future form, if any.

The Treaty has played a significant foreign policy role in American relations with the region for the Government of the United States of America. However, in the Treaty, the government faces the challenging issue of balancing the objectives of the American fleet, the management procedures of WCPFC, and the Treaty's larger objective of creating and preserving shared geopolitical relations with PICs. In an increasingly competitive business, the American fleet, which is now constituted of one firm with six vessels and other owners, with one or two vessels apiece, will continue to evaluate the economics of the available access alternatives. The revenue from the Treaty is less significant for PICs than it formerly was, but it is still significant. PNA Members who have successfully increased access fees through bilateral agreements will find the Treaty considerably less attractive. Pacific Island Parties are aware of the historical relationship and the fact that the American fleet adheres to stringent operating and reporting rules.

## **2.7 The Russian Federation**

This section begins with a historical perspective to evaluate the access arrangements of the Soviet Union, which at one time caught the most marine fish and had the most agreements in place of any DWFN. In some histories of foreign fishing in developing nations, it is assumed that industrial DWFs had no connection to coastal developing nations prior to the 1970s. The marine fisheries were virtually unregulated. While this is somewhat accurate, several DWFNs, notably the Soviet Union, were negotiating fisheries agreements with developing nations far before the institutionalization of EEZs. The first deal was struck in 1959 with Guinea-Bissau, and within a decade the Soviet Union had agreements with 18 African Nations, with Somalia being the largest. By the mid-1970s, Soviet fishing agreements had been finalized in more than 40 nations, including those in the Near East, South Asia and Latin America.

Prior to its dissolution, in 1986 the Soviet Union had established a global network of access agreements to support the world's largest oceangoing fishing fleet (4 222 vessels) and the world's second-largest fish producer. The majority of which was marine capture, trailing Japan by a small margin throughout the 1970s and 1980s (Mfodwo, 2005). In 1980, the Atlantic Ocean provided 49 percent of the total Soviet catch, while the Pacific Ocean provided 41 percent. Large, modern, but often inefficient industrial vessels processed most of the frozen fish, canned fish and fish meal transported to the market.

Fisheries access arrangements were crucial to this global fishing project because they provided a framework for the Soviet Union to exploit resources in waters under the national jurisdiction of other States, and to use ports and other relevant terrestrial facilities (including airports) to facilitate fish transshipments, air freight exports and fishing crew changes. The political purpose of utilizing fishing fleets as supplementary features of maritime power is outlined in Table 3 along with the essential components of Soviet agreements during the period. By constructing a global network of ports, the Soviet Union and its allies facilitated access to and transit from all of the far-flung fishing firms of the Soviet bloc. These ports were intended to serve as quasi-home bases for the various Soviet and allied fleets, given that the premier Soviet ports in the Baltic (Estonia, Latvia, Lithuania) were thousands of miles away from key theatres of operation such as the Southern and Indian Oceans – the Antarctic, for instance, being up to 14 000 miles from the Baltic ports.

In the 1970s, the large Soviet fishing industry, which comprised over half of the world's industrial fishing fleet, progressively targeted new under-exploited fisheries and their enormous vessels required bases for processing fish captures and refuelling.

By the mid-1980s, fisheries access agreements of the Sovietic fishing in distant waters, particularly joint ventures, had become part of a worldwide fish supply and marketing strategy. Under this plan, the Soviet Union split the world into a number of fishing zones, attempted to secure joint ventures in each zone. This aimed to utilize fish caught by these joint ventures to support its enormous worldwide barter trade in fish. Therefore, the Soviet fishing fleet did not simply expand to meet domestic demand. It actively sought to establish new markets to sale the fish in order to generate revenue and maintain the economic viability of the overcapitalized fishing fleet.

In West Africa, for example, the Soviet Union recognized the potential for a substantial fish market. Small-pelagic species fishing was therefore divided between supplying the Soviet market and African markets, particularly Nigeria. This is still the case, but after the fall of the Soviet Union, other Northern European corporations, mainly the Dutch, entered the market (see section 3.1). As a result, official trade statistics on fisheries in West Africa indicates that imports have at times exceeded exports in volume. The problem is that the imports originate from African waters, not the Russian Federation or Europe.

Insufficient documentation exists regarding the nature of Soviet fishing agreements with emerging nations. The Central Intelligence Agency (CIA), which had been monitoring Soviet fisheries expansion, estimated that the Soviet Union had spent approximately USD 280 million on fisheries agreements by the late 1970s.<sup>33</sup> Thousands of Soviet engineers and scientists were stationed abroad and the Soviet Union awarded university degrees in fish science to a considerable number of authorities from emerging nations (Kaczynski, 1989). According to CIA records, the agreements with African Nations were mostly based on Soviet promises to provide funds and technical assistance for the establishment of processing plants and coastal infrastructure. If accurate, this is a significantly more favourable agreement than other DWFNs offered at the time or have offered since (Brooke, 1988). Due to the profit-sharing agreements, it has always been alleged that Soviet vessels significantly underreported their catches to their host partners (Belhabib and Pauly, 2015). Significant quantities of fish would not have been caught locally. However, the 50 percent deal may not have been as generous as it appeared on paper. In fact, by the time arrangements with the Soviet Union fell apart in the 1980s, some sources indicated that host governments were owed significant outstanding payments. The World Bank estimated in 1985 that Guinea-Bissau should have received approximately USD 23 million from the Soviet fishing contract, but the Ministry of Finance only received USD 3 million (Brooke, 1988). Infrastructure erected by the Soviet aid program also proved too expensive or unmaintainable rapidly.

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<sup>33</sup> This is according to a classified government briefing report on Soviet fisheries agreements with developing countries produced by the US Central Intelligence Agency in 1977, subsequently declassified in 2002.

**Table 3**  
**The essential elements of the Soviet Union–Coastal State Fisheries Agreements**

Commitments by the Soviet Union		Commitments by coastal States	
Research	<ul style="list-style-type: none"> <li>• Cruises</li> <li>• Data sharing</li> <li>• Local scientists on board</li> </ul>	Allow access to resources	<ul style="list-style-type: none"> <li>• Licensed fleets</li> <li>• Joint enterprises</li> <li>• Transshipment at sea</li> <li>• Surveys of resources</li> </ul>
Training	<ul style="list-style-type: none"> <li>• Education in the Soviet Union</li> <li>• Local crew on board</li> <li>• Assist local schools</li> </ul>	Allow access to infrastructure	<ul style="list-style-type: none"> <li>• Ports</li> <li>• Supplies</li> <li>• Repair facilities</li> <li>• Crew transfer and</li> <li>• import of equipment</li> <li>• Landing rights for aeroflot</li> </ul>
Development	<ul style="list-style-type: none"> <li>• Principle established</li> <li>• Provide vessels</li> <li>• Provide infrastructure</li> <li>• Credit facilities</li> </ul>		
Commercial Activities	<ul style="list-style-type: none"> <li>• Cooperation in joint ventures</li> <li>• Investments paid in fish, or fish revenues</li> </ul>		

The DWF of the former Soviet Union fell due to economic and structural issues (Pashkova, 2003). The Soviet Union sponsored its long-distance fleets (and its vast ocean-based fish processing vessels) significantly, particularly in terms of fuel. The immediate and abrupt elimination of government support resulted from the application of market principles to all economic sectors of the former republics. The exorbitant costs of fuel, general operations, and fleet maintenance for the frequently enormous, long-distance vessels that were acquired by private corporations posed a significant threat to their business prospects. Many were aged as well. In terms of their catch and on-board processing equipment, the most productive of these enormous vessels were frequently highly specialised.<sup>34</sup> The difficulty to convert these vessels for fishing within the EEZ of the Russian Federation led to the sale or destruction of the larger fishing vessels. As the focus switched to the waters of the EEZ of the Russian Federation, particularly in the Far East, there was not replaced with more modern vessels. Consumer rejection of the standardised products of the long-distance fleet and its associated land and ocean industrial complexes was the final economic and structural element which became dominant almost immediately. Importing a greater variety of fish products into the Russian Federation, Ukraine and other former Soviet republics rendered the Soviet business model's products unsellable.

At the time of the disintegration of the Soviet Union at the end of 1991, the Union was comprised of fifteen Republics that had voluntarily come together. Estonia, Latvia and Lithuania have coasts that face the North Atlantic, but the Russian Federation's Far East coastline faces the United States of America,

<sup>34</sup> An example is the difficulty of converting vessels specialised in catching and processing horse mackerel off North-West Africa into vessels able to process the salmon, herring, cod, flounder, halibut, and pollock resources of the Russian Far East.

Canada, and the rest of Asia (Japan, China, the Republic of Korea, among others). None of the other Republics had an oceanfront coastline. In practice, the huge Soviet long-distance fishing fleet, and its processing and shipbuilding complexes were centred in Kaliningrad, Estonia, Latvia, and Lithuania in the north, and the Russian Federation Far East. Following the fall of the Soviet Union, Estonia, Latvia, and Lithuania joined the European Union. Before or after the admission of the European Union, the majority of the DWFs were deactivated.

The most significant marine sector component contributing to the elimination of long-distance fishing fleets in the Russian Federation was the inward shift towards the EEZ of the Russian Federation, especially the EEZ of the Far East (Radchenko, 2017). Consequently, the Russian Federation has devised a system of the total allowable catch and periodic auctions of fishing rights for its whole EEZ, but especially for the Far East. In addition, none of the recent policy and legal arrangements of the last two decades devote significant financial resources or policy attention to long-distance fishing – there are passing references to such fishing, but no systematic program of support or revival of the previous era of global dominance exists (Russian Federation, 2009, 2014 and 2020).

## 2.8 The Republic of the Philippines

The Philippines is an example of a resource-seeking emerging nation driven by national firm demand for raw materials to supply its export-focused tuna processing. The tuna fisheries of the Philippines were among the first in WCPO to grow on a major scale (Havice *et al.*, 2019). Today, access arrangements in WCPO, particularly with Papua New Guinea, are a crucial component of the purse seine fleet's strategy, supplying vital raw materials to the local processing sector in the Philippines. As a result, access has been recognized as an important component of the overall industrialization and expansion plan of the Philippine tuna processing industry.

In addition to a local purse-seine fleet, Philippine interests have a presence in distant waters in two ways to gain access to fish in WCPO. The first category consists of Philippine-flagged purse seine vessels that fish in waters of Papua New Guinea under access agreements or as locally-based foreign vessels under charter arrangements with predominantly Philippine-owned, Papua New Guinea-incorporated firms. It can be difficult to keep track of the number of vessels engaged in this method of fishing. However, it is estimated that 30–32 vessels fish in the waters of Papua New Guinea. In 2017, these vessels captured about 140 000 tonnes of tuna. The second category consists of Papua New Guinea-flagged vessels that are beneficially owned by Philippine corporations but are chartered to Papua New Guinea firms. It is estimated that roughly 25 vessels of this type exist, including those owned by Taiwanese-led joint ventures. The catch of the 25 Papua New Guinea-flagged vessels owned by the Philippines could reach 110 000 tonnes. In Papua New Guinea, the Fishing Industry Association represents both processors and fishing firms, including beneficially owned Philippine corporations, which play a significant role in the industry and are in many instances vertically integrated.

In accordance with the European Union's Generalised Scheme of Preferences Plus (GSP+) rules of origin, catches from vessels that have elected to retain the Philippine flag and operate under charter arrangements qualify as wholly obtained when a number of conditions are met. This allows frozen cooked loins and canned tuna produced from this catch in the Philippines to enter the European Union market duty-free.

Papua New Guinea-flagged vessels receive a separate benefit: reduced access fees and, provided certain conditions are met, access to a unique category of licenses known as FSMA licenses, in accordance with the FSMA for Regional Fisheries Access. These permits permit fishing in the waters of eight PICs (see section 3.4). This access strategy coincides with the Government of Papua New Guinea second-generation access arrangements, which have been in place since approximately 2004, to process catch taken in EEZ of Papua New Guinea in domestic plants as a strategy to capture onshore benefits including processing jobs and infrastructure development. The pledges of Philippine fishing firms

operating in Papua New Guinea's EEZ to invest in or supply onshore processors are tied to their activities in the EEZ. Fish processed in Papua New Guinea are eligible for duty-free entry to the European Union market, regardless of the vessel that caught them. This exemption has not yet resulted in a considerable increase in processing volume in Papua New Guinea plants, with many continuing to run well below full capacity and large volumes of catch still shipped to the Philippines to serve its local processing industry.

In 2018, Papua New Guinea announced a new strategy for directing volume into its domestic processing plants: Papua New Guinea eliminated licensing discounts for fishing vessels in Papua New Guinea waters and instead introduced a rebate scheme under which vessels received USD 400 per tonne of catch offloaded to Papua New Guinea plants. Exporting vessels were not eligible for discounted access or the offloading rebate (Maefiti, 2018). The scheme is a fascinating illustration of how resource-owning States are experimenting with connecting access to value-added projects.

In recent years, access arrangements have been negotiated to give Philippine vessels the option to fish further afield – some vessels have FSMA licenses allowing them to fish in all eight PNA EEZs, while others have bilateral access under PNA's VDS to fish in neighbouring EEZs, such as those of the Federated States of Micronesia and Nauru. Additionally, one corporation owns shares in multiple Korean joint venture vessels operating in Kiribati. Two Philippine vessels that formerly operated in Solomon Islands have recently changed hands and been reflagged as Solomon Islands vessels.

In conclusion, these strategies illustrate how Philippine resource-seeking firms strategically approach access arrangements to secure raw material, rules of origin-compliant market access for products and strategic long-term supply for the domestic Philippine processing sector by leveraging investments onshore in countries with tuna-rich EEZs.

### 3 RESOURCE HOLDERS: ACCESS ARRANGEMENTS BY WORLD REGION

This part does a multidimensional mapping of selected countries that are typical of the types of arrangements described in the introduction. The narrative method reflects the various histories, unique approaches of analysis employed by the authors, and varying levels of information accessibility, with some examples being more or less thoroughly examined. The method avoids specifics and is set at a level that enables readers to comprehend fundamental dynamics and linkages, and to begin comparing situations.

#### 3.1 Africa

##### **Cross-cutting issue I: The relationship between the European Union resource access and African market access for fisheries and aquaculture products**

Western European Nations and corporations have long exploited the offshore fisheries off the coasts of African coastal States and SIDS. National experiences with these resource seekers are diverse and frequently country-specific due to the interaction of local political-economies, ideologies, sub-regional politics, and the population dynamics of target fish populations and their altering ecosystems and relationships with legal-institutional forms (e.g. the specific delineation of EEZs). The links between fisheries access and access to the European Union market for exports of fisheries and aquaculture products are a factor that cuts through the experiences of many sub-Saharan African governments with the European Union. Despite the fact that export-oriented fish processing appears to be one step removed from access arrangements, it is inextricably linked to resource-holding state strategies.

A variety of OACPS products have long enjoyed preferential access to European markets. Among these were commercially important tariff advantages for canned tuna, fish fillets, frozen prawns and shrimp in comparison to competitor developing countries. For instance, duty-free OACPS exports of canned tuna entered the European Union duty-free compared to a 24 percent most-favoured nation (MFN) tariff, which was a necessary but insufficient condition for the establishment of canned tuna processing capacity in Ghana, Ivory Coast, Madagascar, Mauritius, Senegal and Seychelles. As a result of OACPS-EU trade preferences, fish processing was one of the very few success products of sustained industrial development in the OACPS (Davenport *et al.*, 1995; McQueen *et al.*, 1998; Grynberg and White, 1998). Prior to 2008, these were non-reciprocal preferences; however, they were superseded by a network of Economic Partnership Agreements (EPA). To benefit from the preference, however, the exporter must comply with strict rules of origin designed to prevent third parties from benefiting from the preference, but which also benefit the European Union DWF by holding its catch as the only or one of the few sources of raw material available to a processor. Ghana and Namibia are exceptions to this paradigm, as their domestically owned industrial fleets comply with European rules of origin.<sup>35</sup> Thus, European rules of origin under EPAs exert pressure on partner countries to agree to SFPAs due to the need to ensure the compliance of processed fish in order to enter into European markets.

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<sup>35</sup> From the perspective of preference-receiving trading partners, such as the OACPS, European fisheries RoO have long been perceived as a source of contention due to their restrictiveness (Ravenhill, 1985; Grilli, 1993; Commission for Africa, 2005). A technical discussion of the political economy of fisheries rules of origin is beyond the scope of this paper. For a brief overview, see Campling (2016).

## Cross-cutting issue II: The role of fishing agents

The role of fishing agents has an impact on the appropriate administration of foreign fishing firms in regions of Africa. In several countries of West Africa, for instance, national rules require foreign firms to employ a local fishing agent in order to get fishing licenses. The requirement to employ a local agent is contained as a condition in European SFPAs. However, in national regulations the purpose and functions of such agents are rarely specified. Although it is an undervalued part of foreign fisheries access arrangements, it is becoming increasingly apparent that fishing agents can wield a significant and detrimental impact in the industry (Standing, 2017). Fishing agents offer a variety of services to foreign fishing firms, such as negotiating the terms of their fishing licenses, providing local crews, assisting with port landings and representing fishing firms in disputes with fishing authorities, such as when accused of non-compliance with fishing regulations. Foreign fishing firms claim that the fees and duties of fishing agents sometimes lack transparency and are frequently excessively exorbitant. One additional problem regarding the employment of fishing agents is the lack of enforcement and other operational problems (Smith, 2015).

The lack of enforcement between agents and national fishing authorities becomes a significant obstacle to progressive fisheries reforms, such as the establishment and execution of legislation that may limit fishing intensity and reduce firm profits. Representatives of the World Bank, which has a substantial portfolio of fisheries reform projects in West Africa, consider fishing agents to be one of the greatest problems to good governance in the industrial fisheries sector (Standing, 2017). Nevertheless, this component of fisheries access arrangements is largely ignored in national and international policy discussions. As part of its West Africa Regional Fisheries Reform Programme, the World Bank reported on the impact of a USD 40 million loan to Ghana in 2019. One of the primary goals of this project was to reduce the number of foreign industrial trawlers in the country to combat overfishing and encourage small-scale fisheries (SSF). The Government of Ghana agreed to this objective. However, the number of licenses sold to industrial fishing firms grew during the project implementation.

### 3.1.1 West Africa

The instance of DWFs is an important example of access arrangements in West African waters. The fundamental principles of these partnerships are outlined before focusing on how DWFs interact with local fishers. Since the 1950s, big foreign fleets have fished the very productive and relatively shallow seas over the continental shelf along the coast of Northwest Africa from Mauritania to Ghana (West Africa) (Bonfil *et al.*, 1998; Alder and Sumaila, 2004; Pauly *et al.*, 2014). Most of these fleets have comprised of trawlers that target small pelagic species in the water column or demersal species on the ocean floor. The catches are expected to have peaked in the 1990s, but they climbed quickly from 1950 to 2010. (Belhabib *et al.*, 2017). Following the introduction of EEZs, West African coastal governments often negotiated access agreements with DWFNs negotiating on behalf of their national firms, directly with DWFs via licensing arrangements, or, to a lesser extent, by requiring joint ventures with local partners (Bonfil *et al.*, 1998; Mallory, 2013; Belhabib *et al.*, 2015).

Access arrangements for foreign trawl fleets fishing on the shelf of West Africa are defined by laws enacted in the mid-1990s, which require all foreign vessels to purchase a license to access fish resources in the EEZ and to fish in accordance with applicable national regulations, with a few exceptions (e.g. reserving exclusive access to coastal waters for SSF, within a defined distance from the shore). Foreign fishing vessel licenses cannot be transferred and typically have a one-year maximum lifespan with no related catch or effort constraints (Viridin *et al.*, 2019). While these trawl fleets have traditionally been registered in a relatively small number of countries, primarily from the European Union (Spain, the Baltic States, Greece and Italy) or the Russian Federation, Chinese vessels have dominated trawling in the region in recent years (Pauly *et al.*, 2014). European trawlers operate only in Mauritania and Guinea-Bissau under access agreements established between governments. Otherwise, foreign trawl vessels operate throughout the region through firm-to-government first-generation access agreements with

predetermined flat prices for licenses based on the type of vessel/fishery or second-generation arrangements, which are often based on joint ventures.

Foreign trawl fleet operations within the EEZs of coastal States in West Africa have been linked to a variety of negative environmental and social impacts (Amusan and Oloba, 2019), including overfishing and ecological impacts (Akpalu and Eggert, 2020) and non-compliance with coastal State regulations (Belhabib *et al.*, 2019; EJF and Hen Mpoano, 2019). Several case studies suggest that these arrangements have been economically suboptimal for coastal States (Viridin *et al.*, 2019 ; Akpalu and Eggert, 2020).

Conflicts between DWFs and domestic SSF operating in the same space or targeting the same resources are among the most notable negative societal effects. This has been a cause of violence in West Africa for decades (Ameyaw *et al.*, 2020; Belhabib *et al.*, 2020 ; Jueseah *et al.*, 2020). Specifically, trawling in resource-rich but vulnerable tropical coastal waters harms SSF and the marine ecosystem by indiscriminately capturing all marine species, particularly juvenile fish and harming the seabed.

West African coastal States have welcomed industrial DWFs into their waters with the claimed goals of generating cash through licensing, enhancing domestic fishing capability, and/or supplying local processing facilities. In fishing access arrangements, the negative effects of large industrial fleets' operations on the prospects for the development of local artisanal fisheries have been underestimated.

Local fishing organisations in West Africa have long opposed the presence of DWFs in their seas, underscoring the actual and prospective significance of domestic opposition in determining access arrangements. The case of Mauritania's octopus fisheries is one example. Until the late 1990s, under a bilateral agreement between the European Union and Mauritania, a fleet of more than 100 coastal trawlers from the European Union targeted this extremely lucrative resource. Concurrently, a growing, locally-developed sustainable SSF sector also targeted octopus. Due to the overexploitation of the resource, the local SSF demanded that the European fleet leave and that the resource be reserved for national operators (European Commission, 2010). This was finally accomplished in 2012 with the signing of an FPA between the European Union and Mauritania that prohibited octopus trawlers from European Union waters. The FPA of 2012 also pushed other European trawlers farther from the coast in order to prevent rivalry with the local sector. In the 2020s, however, the Mauritanian SSF faced the threat of Chinese-flagged octopus trawlers that had changed their flag to Mauritania (FiTI, 2018).

As a result of the efforts of many West African nations to restrict access to their resources to national operators in an effort to strengthen their national industrial fishing capacity, the owners of these international vessels have formed joint ventures with nationals of these nations. In most cases, these second-generation access arrangements are based on bogus joint ventures, as the African national partner in the joint venture is merely a figurehead employed to register the foreign vessel locally,<sup>36</sup> hence granting access to the country's marine fisheries. With rare exceptions, second-generation arrangements are opaque and conceal nefarious practices that permit joint venture vessels to fish without obeying fisheries management and ecosystem conservation measures, hence endangering the existence of local SSF communities.

Côte d'Ivoire exemplifies the excesses of the joint venture system, sometimes known as ivoirisation. In the port of Abidjan, 55 of the 80 industrial fishing vessels anchored are handled under Ivorian law by joint fishing ventures with Chinese managers. The capital commitment of the Ivorian partner is typically between XOF 1-2 million, even though these firms may manage more than ten vessels.

The Chinese-built vessels handled by these businesses are either "ivoirisés" (reflagged) or chartered (with the Chinese flag). The ivoirisation of a vessel provides the shipowner with benefits, such as exemption from fuel taxes, reduced port fees, discounted fishing license expenses and/or administrative

<sup>36</sup> In Senegal, some local companies have a share capital of XOF 100 000 (EUR 150) and operate several trawlers of foreign origin. See; <https://aprapam.org/storage/articles/April2020/FFdAVBcYt5hmmuUUmDY5.pdf>

priority.<sup>37</sup> The Ivorian Maritime Code outlines the requirements for ivoirisation, which include at least one-third ownership by natural or legal people of Ivorian nationality or a crew constituted of at least 75 percent Ivorian nationals. Reportedly, these rules are not adhered to, with officials systematically granting exceptions to firms.<sup>38</sup> In addition to internal consequences, this approach to second-generation access has created challenges for the subregion. The research implies that fishing firms benefiting from ivoirisation do not abide by fishing rules in effect in other EEZs in West Africa. In 2020, the Nigerian Navy apprehended a vessel belonging to the Ivorian firm Haina for unlawful fishing in Nigeria. In 2011, several Rong Chang vessels, belonging to a firm with offices in Abidjan and Pointe Noire, were banned from fishing in Congo for IUU fishing in the 6-mile spawning zone.

Trawling by the DWF in West African waters has repercussions for a variety of stakeholders, including female fish traders and processors. With declining SSF catches, their raw material supply dries up, leaving them unable to process and sell fish. This also jeopardizes their crucial contribution of fish to local food security, as SSF-processed fish are known to be transported inland and across international borders.

#### **Box 5**

##### **Disclosure of fishing licenses in Liberia**

In 2010, the Government of Liberia enacted the first fisheries management legislation in decades and established the number of fishing permits to be awarded to international firms (World Bank, 2012). These permits and fees paid to the government were disclosed publicly for the first time in 2011 as an annex to a publicly accessible World Bank trip report “Aide Memoire”, modeled after disclosures made under the Extractive Industries Transparency Initiative (EITI) (World Bank and CSRP, 2011).

As a result, foreign tuna vessels that had been fishing (within the jurisdiction of Liberia) for years were uncovered when firm representatives inquired as to why their vessels were not included on the list. This request from firm representatives prompted a government investigation, which revealed that the government had never received payments made by foreign firms to their local agents for fishing licenses in the past. Consequently, firms paid over USD 3 million in retroactive payments and fines to the Treasury by the end of 2012. (World Bank, 2012).

Increasingly and successfully, women in artisanal and SSF have mobilized against the presence of foreign industrial fishing fleets in their countries’ waters. In 2020, Senegalese women traders-processors formed an alliance with other SSF sector groups to protest the government’s issuance of fishing licenses for Senegalese waters to more than 50 Chinese and Turkish trawlers. This highly coordinated and widely reported effort prevented these trawlers from entering Senegalese waters.

There are examples of international fishing firms collaborating with national firms to help to the economic development of the host country, while maintaining transparency, the rule of law, and non-competition with local SSF (Box 5). The exploitation of deep-water shrimp in Senegal by six vessels of the Senegalese Cooperative of Deep-Water Shrimp Operators, five of which are majority-owned by international investors, is a famous example. This operation adheres to a 2013 management plan for the deep-water shrimp fishery, with annual reporting on implementation. The fishery relies on a quota system with stringent monitoring and the implementation of best practices such as biological rest intervals, selectivity tests, dependable data gathering, and systematic sampling. Regarding access fees,

<sup>37</sup> See article 68 in the following document: <http://extwprlegs1.fao.org/docs/pdf/ivc196015.pdf>

<sup>38</sup> Based on testimony from seafarers from the trade union SYMACOPECI.

the system clearly outlines the revenue distribution between the State and commercial operators, and the operators purchase in bulk from local suppliers, so decreasing costs and bolstering the domestic economy. The success of this strategy is largely down to the low number of operators and the fact that they do not target deep-sea shrimp, resulting in little interaction with SSF.

### **3.1.2 Southern Africa**

#### **Namibianisation in theory and practice**

Namibia has adopted a different approach to regulating international fishing access agreements than many other sub-Saharan African countries. After attaining independence in 1990, Namibia adopted a catch-share system comparable to quota-based systems implemented in New Zealand and Iceland. This decision was influenced by the advice of foreign experts, namely those from Iceland and Norway.<sup>39</sup> The principal objective of the post-independence fisheries management regime of Namibia was to restore fish stocks that had been devastated during the 1970s and 1980s by extensive foreign industrial fishing. The initial action of Namibia resulted in a significant restriction on foreign fishing authorisations, followed by the introduction of total allowable catch limits for its primary commercial fisheries, including hake, horse mackerel, pilchards, lobsters, and deep-sea crab.<sup>40</sup>

One of the distinguishing characteristics of Namibia is the absence of SSF, except for a few isolated fishing settlements operating in estuaries in the extreme north. Historically, the small population of Namibia has been located away from the coastline's characteristic arid scenery. Additionally, the rough and exposed coastal waters are hazardous for artisanal fishing techniques. This indicates that, in contrast to West Africa, the international fisheries access agreements of Namibia are unaffected by potential competition and conflict with the local artisanal sector.

The Namibian fisheries management system has been driven by a policy referred to informally as "Namibianisation." Developed in the late 1990s, it continues to serve as the industry's guiding principle. This has two primary purposes. The first objective is to ensure that a growing proportion of commercial fisheries are controlled and owned by Namibians. This objective is accomplished by enacting legislation that discriminate in favour of Namibian majority shareholding in fishing firms. The second objective is to increase the economic benefits Namibians gain from fishing, which is accomplished through creating jobs for Namibians and boosting government revenues. In addition, Namibia has prioritized commercial fishing that utilizes national ports. Authorisations for fisheries in sectors such as small-pelagic fisheries require local landings, whereas in the hake fishery, fishing authorisation policy has favoured the "wet fish" fishery, which lands in local ports for processing, over the freezer trawler segment, which freezes catches on board for direct export.

The Namibian quota system was initially established through ad hoc guidelines, but was formalized under the Marine Resources Act of 2000. This has had various minor modifications subsequently. Namibia received international recognition from the outset for its approach to responsible fisheries management, and it remains a leading example of catch share allocations based on social and economic objectives. The Namibian method to catch shares is based on a competitive quota distribution system that grants quotas according to each applicant's contribution to the country's economic and social growth. Foreign bidders are permitted to purchase quotas, but preference is given to national citizens

<sup>39</sup> Despite efforts by the European Commission, following independence Namibia rejected the offer of signing a FPA. It was the first high-profile case in which a European offer of a fisheries access agreement was refused on the official grounds that it would be sub-optimal for national development. Senegal and Angola subsequently made similar decisions.

<sup>40</sup> The hake fishery is by far the most valuable in the country and is almost entirely orientated towards exports, with Spain being the primary market. The hake fishery involves a significant quantity of valuable monkfish as well, predominantly classed as a bycatch of the hake trawlers. Small-pelagic fisheries, including horse mackerel and pilchards, represent the largest fisheries by volume and are predominantly orientated towards canning, with exports largely to African market.

and applicants who demonstrate a commitment to social empowerment. An exact quota allocation score system has never been developed. The allocation of quotas to rights holders is solely the responsibility of the Minister of Fisheries and is governed by the following regulations and principles:

- The cost of quotas is decreased for firms that are wholly or primarily held by previously disadvantaged Namibian citizens, as compared to firms that are owned by foreigners. Although quota fees have been subject to numerous charge adjustments, in the past international corporations were compelled to pay as much as twice as much as domestic firms. (Armstrong *et al.*<sup>41</sup>, 2004).
- Quotas allotted to firms meeting the criterion for full or majority national ownership are made available over a longer time period. The duration of government-issued quotas varies between 7, 10 and 15 years. Foreign firms with substantial investments in the fisheries of Namibia are eligible for fifteen-year quotas; otherwise, they receive seven-year quotas. Legally, quotas can be assigned for 20 years, although this has never occurred in practice (Manning, 2000).
- Quotas are not designated for fishing vessel-owning corporations. However, organisations bidding for quotas without fishing vessels must offer documentation of an agreement to lease or share their quota with a reputable fishing firm.
- Namibia banned the trading of its quotas in order to limit the concentration of ownership. However, sub-leasing of quotas by rights-holders to other firms allows for a degree of flexibility, as is the case in the majority of non-individual transfer quota systems. Quotas can also be transferred if a vessel owned by a quota holder is sold to a new owner, and ownership of quotas can change through firm acquisitions and mergers, but Ministerial clearance is required.
- The Minister retains the authority to rescind quota allocations and failure to fish allotted quotas may result in their reallocation to other rights holders.
- Upon the expiration of quotas, a new competitive bidding process is initiated with no assurance that former rights holders would be awarded allocations.

Namibia is also uncommon in terms of its commercial fishing fees. The country has charged fishing businesses a contribution to fisheries research as well as an industry-wide on-board overseer fee in addition to the high quota fees compared to worldwide counterparts – many nations do not impose a price at all. Namibia was the only nation where direct income from commercial fisheries covered the cost of fisheries management and thus provided a positive net income (Arnason, 2004).

Widely praised is the strategy of Namibia to managing foreign fishing. This is largely because of its catch-share system, but also because of government commitments not to subsidise its fishing sector.<sup>42</sup> It has also been acknowledged that Namibia is actively involved in combating IUU fishing and that its monitoring and surveillance systems seem to be more resourced than those of other African nations. International marine conservationists, notably the Worldwide Fund for Nature (WWF) endorsed Marine Stewardship Council (MSC) certification for Namibia's hake fishery as evidence of its excellent international reputation. This was ultimately successful, as the hake industry of Namibia became the second African fishery to obtain the MSC award in 2020.

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<sup>41</sup> The authors understand the phrase “previously disadvantaged” as used to refer to indigenous Namibians, irrespective of their wealth or social standing.

<sup>42</sup> The Government of Namibia regularly claims not to provide subsidies to fisheries, but this is based on a narrow definition. Namibia has provided a fuel rebate that is applicable to fishing companies. Lower fees charged for quotas issued to domestic fishing companies may also qualify as a subsidy according to WTO definitions. The contribution to fisheries management costs has also declined over the years since Arnason (2004): from five percent of the value of catch to two percent. The government therefore likely contributes to management and research costs.

Numerous independent analyses and assessments have, however, raised doubts on the status of Namibia as one of Africa's most successful fishing nations. On paper, the strategy of Namibia to managing access to its fisheries by foreign fishing firms may adhere to international best practice. However, the implementation of these policies has been hampered by a combination of illegal practices and rule misuse by foreign firms. In fact, worldwide appreciation for attaining MSC classification in the hake fishery has been largely eclipsed by the lack of enforcement that has led to criminal prosecutions against government officials.

Multiple complaints of the approach of Namibia to access arrangements have been expressed. First, the Namibianisation of fisheries has been generally unsuccessful. While it may appear that new firms have been founded as a result of the plan, research indicates that a number of foreign firms have utilised sophisticated techniques to construct joint ventures and subsidiaries that seems to offer diverse ownership. This convoluted ownership structure conceals a few huge multinational firms that dominate the industry (Manning, 2000). Since independence, the hake sector has remained under Spanish beneficial control and rules favouring majority ownership in fishing firms have done little to threaten this dominance. Spanish corporations have maintained control over the industry by gaining dual nationality for firm owners or by employing Namibian partners on retainer. Allegedly, Spanish-owned firms got quotas at discounted prices, resulting in a loss of millions of dollars in government income.

In addition, despite the Namibianisation strategy prioritizing employment for Namibians, the government's approach to labour rules in the country's fishing industry has been widely criticised. Employment is highly unstable and poorly compensated, which explains the prevalence of worker strikes and protests (Patterson, 2015).

Second, quotas provided to Namibian citizens are routinely resold or sub-leased to fishing firms at a rate that matches or exceeds the higher fees applicable to quotas issued to organisations that are not Namibian-owned. This has resulted in substantial windfall gains for rights holders. It may be claimed that this represents an unfair transfer of public revenues to private persons and that, for national economic development, it would have been preferable for quotas to be sold directly to foreign firms at the higher price (see section – Reflections).

Thirdly, and relatedly, the procedure of assigning quotas to rights holders has been opaque. Allegedly, under Ministerial discretion, the majority of quota allocations to Namibian-owned firms have been given to individuals who frequently lack the capacity to fish the quota (i.e. not owning fishing vessels) and instead use them to establish joint ventures with foreign firms (Smith and Shihipo, 2021). The issue of elite capture of fishing quotas was identified early on in the fisheries reform attempts of Namibia (Melber, 2003), but the lack of steps have been taken to address the issue. The government has not proactively publicised a list of individuals who have been granted quota allocations (Immanuel, 2020).

Fourth, despite the achievement of Namibia in reducing fishing intensity after independence, Ministers have routinely set the total allowable catches above government scientists' recommendations (Paterson and Kainge, 2014). It is reported that foreign industry lobbying has contributed to this, with independent scientific assessments paid for by industry organisations and delivered by Spanish or South African consulting firms contradicting government data (Paterson *et al.*, 2013).

Foreign corporations have allegedly manipulated the quota allocation procedure, according to a steady stream of reports. A 2012 report by the Consortium of Investigative Journalists detailed conflicts of interest between Spanish fishing firms and high-ranking government officials. A year later, the retiring corporate director of a Norwegian firm with a dominating position in the lobster fishery admitted to paying bribes to gain quotas and described the practice as commonplace in the fishing industry (Lennon, 2013). Leaked records seized from Samherji, Iceland's largest fishing business, which secured fishing quotas for small-pelagic fishing in 2012, provided further extensive proof of systemic corruption in Namibia's fishing industry. This revealed that the Icelandic company had paid millions of dollars in bribery to a consortium of high government individuals. The decision to grant increased quota shares to Fishcor, a state-owned fishing firm, was at the centre of the scandal. This judgment was taken on the

premise that an insufficient number of domestically owned businesses were fulfilling their obligations to empower disadvantaged populations (Mutter, 2019). Nonetheless, Fishcor was allegedly utilized as a front to illegally trade fishing quotas with the Icelandic corporation. Money paid to Fishcor's stockholders was laundered through offshore bank accounts in Norway, Cyprus, and Dubai. This contract involved Fishcor's acquisition of fishing rights to operate in Angola as part of a 2013 reciprocal fishing agreement between Namibia and Angola. This reciprocal fisheries agreement was negotiated with Samherji specifically to improve quota allocations, and bribes allegedly flowed to both Angolan and Namibian government officials.<sup>43</sup>

Namibia attempted to implement a new process for allocating fishing quotas in the hake business in 2020 in response to the so-called "fishrot" incident. The corruption scandal had thrown allocations into disarray, so the government decided to reserve a part for a competitive auction. The sale was also offered to raise additional funding to combat the economic consequences of the COVID-19 outbreak and reclaim Namibians' faith. Initial reports indicated that the auction was successful in selling these quotas for more than twice the price the government generally charges for fishing quotas. The news stated that the quotas were auctioned for a total of USD 40 million. It was announced that the nation had finally disclosed to private firms the full value of its fish resource (NBC, 2020). However, it became evident within a few weeks that almost none of the winning bids were real. Only 1.3 percent of the total amount was paid. Experts are uncertain as to whether the fishing industry hijacked the auction to prevent a permanent increase in quota fees, or whether (which seems more likely) the quota was purchased by speculators who hoped to resell the quotas to fishing firms who had cornered the market, but were unable to raise the capital in time to secure the quota transfers. A new auction was announced for 17 000 tonnes of hake quotas in 2021, despite opposition from the hake sector (Mbathera, 2021). It is now unclear whether this action signifies the start of a new quota allocation mechanism that will be implemented across the fishing industry.

### **3.1.3 Western Indian Ocean (WIO) – Small Island Developing States (SIDS)**

Access agreements in the waters of Madagascar, Mauritius and Seychelles, three independent African SIDS in WIO, are centred on tuna and tuna-like species. Since 1980, when experimental purse seine fishing began, the DWF of the European Union has regularly dominated the WIO tuna purse seine fishery. Such purse seine access arrangements are exemplified by a network of European SFPAs, such as the SFPAs of the European Union with Mauritius 2017-21 and Seychelles 2020-26 (Figure 2) — the SFPA with Madagascar lapsed in 2018 and it is currently inactive. SFPA beneficiaries are primarily French and Spanish firms. Some of these firms also flag their vessels locally utilising local corporate structures, particularly the Mauritius and Seychelles registries. Each of the three SIDS has onshore tuna processing plants depending on the European market and DWF of the European Union for raw material supply due to the design of European rules of origin under the Eastern and Southern Africa EPA, to which they are signatories (see section 3.1).

The WIO longline fishery is more fragmented across numerous flags and firms than the purse seine industry, and access agreements are less well-understood. Vessels with the European flag have access to this fishery under SFPAs, but also access to European waters in Mayotte and Réunion. In the 2000s, Japan and Taiwan Province of China were known to have maintained longline access agreements with WIO SIDS (Campling *et al.*, 2009). For instance, Port Louis has been recognized in the media as a significant base for Japanese longline fleet (Degnarain, 2020), but the most recent annual report from Japan's Ministry of Agriculture, Forestry, and Fisheries indicates that no such agreements exist at present.

<sup>43</sup> This is summarised well on a dedicated website established by Al Jazeera and a group of Icelandic investigative journalists, Kveiker. See for example: <https://www.ruv.is/kveikur/fishrot/angola-namibia/>

Given the historical dominance of the European Union in the purse-seine fishing in WIO, coastal States have sought to establish greater control over access relations through South–South cooperation at various periods. Independent coastal and island States bordering WIO signed an agreement forming the Western Indian Ocean Tuna Organisation (WIOTO) in the early 1990s.<sup>44</sup> It committed Members to regional harmonisation of fisheries policies, coordination in Members’ relations with DWFs and DWFNs to maximise advantages from tuna resources, cooperation in fisheries surveillance and enforcement, and mutual access to EEZs of WIOTO Members (Marashi, 1996; Michaud, 1992; WIOTO, 1990 and 1991). The FFA, which groups together independent island States in WCPO to collaborate in their relations with distant-water tuna fleets, was the direct institutional inspiration for this development. The FFA had recorded several significant successes in the 1980s, including the increase of fisheries access revenue and collaboration over the management of foreign fleets (see section 3.4).

WIOTO was therefore a stillborn institution. Only a few of Members (Seychelles, Mauritius, the Comoros, and India) remained by the mid-1990s and other parties to the organisation did not appear to pay attention to it (Marashi, 1996; WIOTO, 1991). Moreover, France opposed the organisation, not least because it excluded Mayotte and Reunion, two French colonies in the region, and challenged the status quo for the French DWF (Campling, 2012b). Likewise, WIOTO has geographical shortcomings in comparison to FFA. The FFA Members’ EEZs overlap, making it hard to conduct commercially viable purse seine operations in WCPO without accessing several Members’ EEZs throughout the year, whereas in WIO, tuna migrate across nearby high seas areas for a larger percentage of the year (Campling, 2012a). In the mid-2000s, initiatives were undertaken by the Indian Ocean Commission to promote improved South–South collaboration around the tuna resource, but, like WIOTO, they were actively fought by France and hampered by intraregional conflicts between Mauritius and Seychelles (Campling, 2012b ; Andriamahefazafy *et al.*, 2019).

Late in the 2010s, IOTC deliberations on quota allocation revealed the limits of South–South collaboration at this RFMO, thereby undermining a sub-regional approach to access relations among autonomous WIO coastal States (Andriamahefazafy *et al.*, 2019). This is in stark contrast to the FFA model, which promotes high-levels of coordination, and shared stances at WCPFC in awareness that RFMO decisions directly and indirectly impact access relations. On the one hand, DWFNs (headed by the European Union) suggested to the IOTC membership in 2018 that 85 percent of any quota be allocated based on past catches in the Indian Ocean (IOTC, 2018), which would give DWFNs effective rights over the great majority of future catches. A parallel proposal by the G16<sup>45</sup> proposed to allocate catch based on a variety of criteria, including a baseline for all coastal States, historical catch, and supplemental allocations for high seas catch and for tiny island States and developing coastal States (IOTC, 2018). It is reported that not all WIO SIDS supported the G16 proposal due to the ties to DWFNs through access arrangements and related official development assistance (Andriamahefazafy *et al.*, 2019).

It has long been recognised that the official development assistance that is not directly related to fishery access arrangements influences interactions between resource-holding governments and resource-seeking States and the firms they represent (Tarte, 1997). In the 2010s, the European Union, Japan, and China were the three largest suppliers of development and fishery aid in WIO (Andriamahefazafy *et al.*, 2019). Between 2014 and 2020, the European Union was engaged in a EUR 518 million national development aid program in Madagascar covering governance, infrastructure and rural development. In 2017, Japan contributed with EUR 370 million in the expansion of the Port of Toamasina in Madagascar (European Commission, 2016a; Hanazaki, 2017). These DWFNs also contribute with non-

<sup>44</sup> Signatories to the Convention establishing the WIOTO were the Comoros, India, Kenya, Madagascar, Maldives, Mauritius, Mozambique, Seychelles, Sri Lanka and the United Republic of Tanzania.

<sup>45</sup> Named after Article XVI of the IOTC agreement, acknowledging the sovereign rights of coastal states over living resources in their EEZs (IOTC, 1993).

fisheries official development assistance to Mauritius and Seychelles, which have a greater degree of economic growth.<sup>46</sup>

In addition, WIO is an example of South–South reciprocal fishing access agreements that have been in existence between Mauritius and Seychelles since the early 1990s. These agreements permit licensed vessels access to each other’s EEZ. For instance, the 2017 agreement for a two-year period allowed purse seiners and longliners from both countries to operate in their respective EEZs for a fee of USD 110 000 – 30 000 per vessel per year, payable by Mauritius vessels, and USD 30 000 – 24 000 per vessel per year, payable by Seychelles vessels (Seychelles Nation, 2017). Effectively, the agreement applies to foreign-owned vessels flying the flag of one of the signatories, meaning that DWFs immediately benefit from South–South cooperation. Many of these firms benefited from the Mauritius–Seychelles arrangement (SFA, 2016). Flagging can be viewed as advantageous for SIDS parties since it increases the national fleet of coastal countries, generates cash from flagging, and effectively permits foreign fishing firms to operate more vessels than those specified by bilateral agreements. However, this does boost the region’s fishing capacity at a time when the IOTC is attempting to implement steps to rehabilitate the tuna resource (IOTC, 2017). The fishing activities of these vessels bring additional challenges, such as a higher difficulty in acquiring reliable statistics for catch and effort or the possibility that they are subject to questionable tax legislation and blurred labour norms.

## 3.2 Asia

### 3.2.1 Reciprocal arrangements in the East China Sea

The East China Sea is a significant fishing field for trawlers that capture croaker, hairtail, and squid (Ou and Tseng, 2010). Currently, the East China Sea fisheries access arrangements are governed by four bilateral fisheries agreements between China and the Republic of Korea, Japan, and Taiwan Province of China and Japan (Yeh *et al.*, 2015).

As depicted in Figure 6, the designations of the joint fishing zones vary based on the bilateral partners engaged and the specifics of the agreement (e.g. middle zones, transitional and provisional zones, special zones):

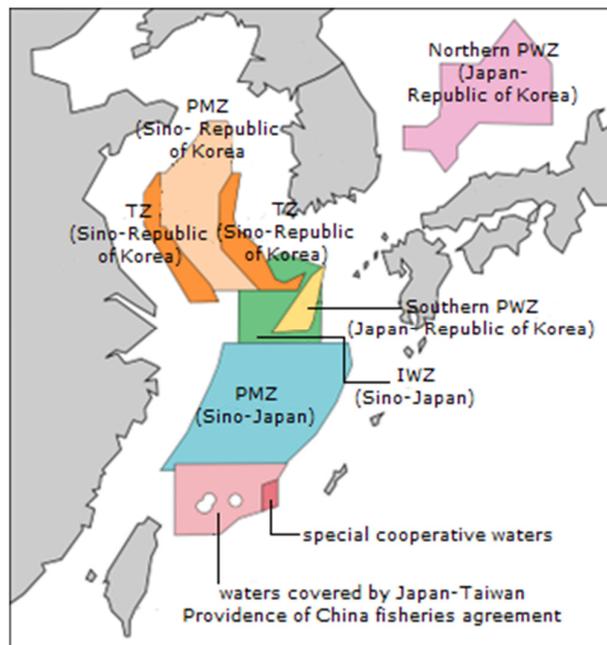
- The Japan–Republic of Korea Fisheries Agreement entered into force in 1999, and annual consultations determine the access conditions to EEZs.
- The new Japan–China Fishery Agreement entered into force in 2000 and the Japan–China Fisheries Joint Committee governs relations, including annual discussions on access issues.
- In 2013, the signing of the Japan–Taiwan Province of China Private Fisheries Agreement. It is a private agreement between the Interchange Association of Japan and the Association of East Asian Relations of Taiwan, and it is regulated by the Japan–Taiwan Fishery Committee (Fukuda, 2013).
- The China–Republic of Korea Fisheries Agreement was ratified in 2000 and entered into force in 2001. The pact resembles the Japan–Republic of Korea Fisheries Agreement in its fundamental characteristics. The distinction is the construction of two transitional zones along the shared fishing zone limits.

Despite having distinct names, the management systems of these agreements are comparable. The annual access criteria (e.g. fish species, fish quota, number of fishing vessels) and conservation and management measure (CMM) of fishery resources in these areas are determined by the joint fisheries

<sup>46</sup> For example, under the Eleventh European Development Fund, a EUR 9.9 million programme was allocated to Mauritius (European Commissions, 2016b) and a EUR 2.2 million programme to Seychelles (European Commission, 2014).

committees of the two partner governments (Ou and Tseng, 2010). Any enforcement activities utilize flag-State control systems (Kim, 2003; Kang, 2003). It is acknowledged that the requirements for joint fishing zones do not apply to third parties, which complicates fisheries management, particularly when the joint fishing zone between Japan and China intersects with the joint fishing zone between Japan and the Republic of Korea (Figure 6). (Kim, 2003).

**Figure 6**  
**Joint fishing zones in the East China Sea**



Sources: Drawn from Ou and Tseng, 2010; Hsu, K. & Southerland, M. 2015. *Taiwan's global fisheries modestly advance its "International space"*. Staff Research Report. US-China Economic and Security Review Commission.

Key: intermediate waters zone (IWZ); provisional measures zone (PMZ); provisional waters zone (PWZ); transitional zone (TZ)

### 3.2.2 Myanmar

Regional conflict and Cold War politics influenced early conflicts over access to fisheries in Burma (Barbesgaard, 2019). This presented itself in the late 1960s, when Burma, Cambodia, and Viet Nam formally restricted Thai trawlers from approximately 280 000 km<sup>2</sup> of fishing grounds or half of the area formerly utilised by the Thai fleet (MFR, 1988). Burma's 1968 claim to 12 nautical miles of territorial seas was bolstered by the regime's seizure of more than 200 Thai fishing vessels between 1968 and 1976 for trespassing in its waters (Butche, 2004). Burma established an EEZ in April 1977. According to a 1984 FAO report, Burma was one of the few (if not the only) Southeast Asian countries with yield potential at the time (Pauly, 1984). Nonetheless, no access agreements were reached, and the problems between the Burmese Navy and Thai fishing vessels persisted.

The utilisation of access arrangements to reduce IUU fishing was one approach. To prevent incursions into their EEZs, several governments in the region have been bolstering their ability to patrol their waterways, with Japanese fishing fleets providing a substantial impetus. In fact, in 1986 when Burma approved a joint venture deal with the Japanese firm Nikata allowing for a significant increase in surveillance of the EEZ, landings in Ranong, the main fishing port in southern Thailand, dropped by 40 percent. According to the Marine Fisheries Review of the Government of the United States of

America, Nikata supplied Burma's State-owned fishing industry with training, technology, equipment and refrigerated stores (MFR, 1988). While some of the fish was sold in Burma, the fish of superior grade was sent to Japan. Concurrently, in order to secure their investment, the Japanese have supplied the Burmese with 42 patrol vessel and six helicopters to deter poaching (MFR, 1988).

The relationship between Burmese and Thai fishing firms changed considerably in 1988. Burma modified its tactic from exerting control of the EEZ by opposing Thai fishing to asserting control in order to assist Thai fishing and capture rents through access arrangements. In December 1988, it was agreed with Thailand that Thai trawlers would be granted fishing privileges. This was followed by the Fishing Rights of Foreign Vessels Act of 1989, and in March of 1989, the Burmese fishery department gave five Thai firms licenses to fish in Myanmar seas. The licenses were initially valid for one year and targeted a specific concession area; the contracts required the Thai firms to pay between USD 600–800 per gt of catch (Kramer, 1994).

In May 1989, however, a new fisheries cooperation agreement was negotiated between the Thai and Burmese regimes, allowing the selection of Thai partners for joint ventures with a State Law and Order Restoration Council (SLORC) – established firm. The terms of this arrangement had changed and Thai vessels were now required to employ Burmese crew members and land their catches in Burma. The Government of Thailand established the Thai–Myanmar fisheries corporation to supervise and regulate the involvement of the Thai fishing industry through a central fishing firms. In order to assist problem-solving, the government then urged Thai firms to buy shares in the corporation and fall under its protective cover (Innes-Brown and Valencia, 1993). Particularly targeted for following concessions were the bountiful, nearby and familiar waters of the Andaman Sea off the coast of Mon State and Tanintharyi division for the Thai fleet.

Access arrangements were influenced by broader politics and well-known domestic grievances. Because of the size and power of their vessels, the operators of trawlers and purse seines could quickly demolish any small nets or vessels that happened to get in their path, these dynamics had ramifications for the livelihoods of others employing less powerful fishing gear (Butcher, 2004). Foreign and domestic interests, as well as industrial and smaller-scale vessels, fought over access. In fact, the issue of access to and benefits from fish extraction in Myanmar's EEZ was at the centre of a confrontation between SLORC and numerous other groupings. The social and political effects of this conflict for access to fisheries were obvious. One observer on the concessions granted to Thai fishing businesses stated "The local fishing population is prohibited from fishing in the expansive sea region of the international fishing firms' concessions" (MIS, 1997). In October of 1989, six Thai trawlers were captured and by the end of the year over one hundred fishing vessels had been kidnapped; ransom was paid for their recovery. In December 1990, the largest and most modern vessel formerly engaged in Myanmar's EEZ, operated by a Ranong port-based business in Southern Thailand exploded (The Nation, 1991a). By January 1991, 265 Thai fishing vessels were operating under the auspices of the joint venture with SLORC in Myanmar's EEZ. In April 1991, groups asked that Thai trawlers operating in their controlled waters register for fishing licenses through a specific committee. They targeted all operating vessels and demanded license fees proportional to the ice carrying capacity of each vessel. The revenue generated from licenses would be distributed within the group.

Despite this allegation, the Government of Thailand previously renegotiated a number of agreements. In August 1991, a delegation comprised of several Thai fishing sector leaders extended the joint venture agreement through March 1992. This expansion included letters of intent from Thai firms to invest in fishmeal and tuna canning factories, as well as ice manufacturing and storage facilities (The Nation, 1991b). However, this plan of utilising a second-generation access arrangement to establish a local fishing and processing business failed, as Thai vessels rarely landed catch in local ports and even then, sent it back to Thailand (Hosch, 2015).

The fact that Thai vessel owners were paying for access arrangements irked them. During the 1990s, the conflict between local organisations competing for fishery rents intensified, with the government ultimately prevailing. Nonetheless, ties with Thai fishing firms remained turbulent throughout the remainder of the decade, with SLORC periodically providing access and then rescinding its decision (Gutter, 2001). This was a result of broader changes in international relations between the two governments, such as the 1999 ban on Thai trawlers. It was projected that the prohibition caused the fishing industry daily losses of USD 3.8 million (Gutter, 2001).

The most recent ban was enacted in 2014, ostensibly to reduce overfishing (ILO, 2015). According to reports, Thai-owned vessels have remained in the water of Myanmar despite various actions (Butcher, 2004; Tezzo *et al.*, 2018). One viewpoint holds that the lack of enforcement by foreign corporations constitutes an illegal access agreement. Whether or not nefarious activity is at play, it is evident that non-enforcement of monitoring, control and surveillance is characteristic of the offshore fisheries, which falls under the purview of the Navy. This is evident in joint venture activities that continue despite the ban on the licensing of foreign fleets, as well as in the poor enforcement of the annually determined closed season and the high prevalence of IUU fishing by foreign fleets, particularly from neighbouring Thailand. (Hosch, 2015; Tezzo *et al.*, 2018). According to reports, foreign vessels unlawfully transport fish obtained in Myanmar's EEZ to Thailand, Malaysia, and Taiwan Province of China.

However, evidence reveals a severe decline in the Thai fleet throughout the 2010s. Since the early 2010s, the policy of Myanmar to reduce the number of foreign vessels operating in its waters, and the policy of Thailand since 2014 to apply stricter flag State controls to its fleet operating in areas beyond national jurisdiction, resulted in only five foreign fishing vessels operating in Myanmar by 2018. (Hosch *et al.*, 2021). In conclusion, the combination of enhanced domestic implementation of monitoring, control and surveillance, and broader regulatory powers with a parallel tightening of the same by a regional fishing power has transformed Myanmar's offshore fisheries access regime from one characterized by illicit access arrangements to one that prioritises domestic operators.

### **3.2.3 India**

India has never signed a formal fisheries access agreement with another nation (Flewwelling and Hosch, 2003). Despite the absence of formal agreements, foreign-flagged fishing vessels have been present in the Indian EEZ since the 1970s. Penaeid prawns, and tuna and tuna-like species have been the primary species linked with these vessels, both of which are targeted for export markets. Foreign vessels have targeted the waters between 12 and 200 nautical miles, the control and regulation of which are delegated to the central government under the Constitution of India. In conjunction with domestic businesses, the central Government of India had been a driving force for access mechanisms.

#### **Actors shaping access arrangements in India**

Access agreements in India have been shaped by three groups of parties. The Government of India, particularly its bureaucracy and planners, prepared the groundwork in the post-independence era for the eventual admission of foreign vessels in the 1970s. The Indo-Norwegian Project of 1963 was the most notable example of a mix of development policies, the construction of export and trade conditions, and collaborations with donors and multilateral agencies to obtain technical and administrative knowledge (Kurien, 1978). For research and surveying purposes, India has a long history of importing foreign fishing vessels, whose designs were adapted to local requirements.

The second group of participants were domestic investors who entered the fishing sector in the first two decades following independence, mostly as financiers of mechanized fishing vessels and export house operators. A thread that runs through the history of access agreements in India is the development of national capacity that would allow domestic enterprises to eventually acquire the expertise necessary to compete in the international capture and trade sectors of the fisheries industry.

The country's artisanal, traditional and small-scale fishing communities have continuously protested, demonstrated, and engaged in direct action to influence, and at times disrupt, access arrangements in the Indian EEZ. In the 1980s, for example, the reduction of foreign trawlers was directly attributable to the enactment of regional state Marine Fishing Regulation Acts. In the 1990, the creation of the first effective deep-sea fisheries (DSF) policy of India and multiple subsequent actions have resulted in the withdrawal of access for all foreign vessels since 2017.

The subsequent description of the activities and responses of social actors that shaped access agreements in India is separated into five phases. The timeline correlates to the adoption of formal rules that gave access agreements with specific direction and stipulations. Since vessels/operators and species were carried over between policy shifts, the timeline does not depict clean operational divisions.

### **Leading up to and after the declaration of the Indian EEZ**

In 1969, the Government of India designated fishing as a priority area for foreign partnership and enacted initiatives to encourage domestic firms to lease and import vessels (Amin *et al.*, 2013). In order to fulfil their trade obligations, which required the export of non-traditional products such as canned and frozen fish, domestic firms were interested in participating in the marine export trade at this time. Soon after establishing its EEZ in 1976,<sup>47</sup> the Government of India recognised that it would be impossible to exploit the newly acquired DSF resources without the participation of private firms. At this time, India took a step toward creating formal policies that would allow foreign flagged vessels to operate in Indian waters.

Initially, foreign fishing vessels were brought to harvest penaeid prawns (Matthew and Nair, 1969; Rao, 1988; Bhoopendranath *et al.*, 2010). In 1975, the Government of India established the Shipping Development Fund Committee to grant loans to Indian businesses.<sup>48</sup> The importation of 30 Mexican trawlers over the following five years was authorised on the condition that an equal number would be produced in India. In 1978, the Ministry of Agriculture notified the Congress that thirteen local firms<sup>49</sup> had submitted import or charter applications for trawlers. By 1987, 76 imported trawlers were operating in the Bay of Bengal region, 36 of which were Mexican, 15 Dutch, 14 Australian, 6 American, 4 from the Republic of Korea, and 1 from China Hong Kong SAR Special Administrative Region (Kartha *et al.*, 1990).

While the first few years were profitable, it soon became apparent that the penaeid prawn fishery in the Bay of Bengal could not support the growth of a DSF over the long-term. Due to the implementation of restrictions on fishing at depths of less than 80 metres in 1983, 110 contracted and joint venture trawling vessels left the fishery of India, alleging the commercial unviability of fishing (Devraj, 1996).

This phase is characterised by a trend toward the survey of non-shrimp resources, and tuna and tuna-like species. There is an abundance of literature<sup>50</sup> from 1970–1980 that describes the research conducted by the State's science and survey organisations. The period's policy direction was largely based on the notion that unorganised fishing industry of India lacked the technology to utilize DSF resources and that Indian businesses lacked the entrepreneurial acumen required to compete in the DSF sector (Meenakumari Committee, 2014). This began the second phase of access arrangements.

<sup>47</sup> India declared its EEZ via the enactment of the territorial waters, continental shelf, EEZ and other Maritime Zones Act, 1976 (Territorial Waters Act, 1976).

<sup>48</sup> Report of the Expert Committee Constituted for Comprehensive Review of the DSF Policy and Guidelines: Meenakumari Committee, 2014.

<sup>49</sup> The 13 companies were: Hindustan Lever, Delhi Cloth Mills, J.K. Chemicals, Rallis India, Brooke Bond, Wimco, ITC, E.I.D. Parry, Britannia Industries, Union Carbide, Tata Oil Mills, New India Fisheries (Thapar Group) and Konkan Fisheries (The Chowgule Group).

<sup>50</sup> Via a scoping search of the Central Marine Fisheries Research Institute repository.

### **Access under the Charter Policy 1981, and Revised Charter Policy 1986**

The Maritime Zones of India (Regulation of Fishing by Foreign Vessels Act, 1981), governs these rules, which were enacted primarily to redirect the focus from penaeid prawn resources. Under the terms of this Act, both first and second-generation access agreements existed. Thus, foreign vessels could fish in the Indian EEZ by paying a fee and acquiring a license, while joint venture vessels were required to pay the Indian partner firm a specified percentage of the catch's value.

Primarily, the objectives were the transfer of technology for resource-specific exploitation and the survey and determination of the quantity of DSF resources in the Indian EEZ (Murari Committee, 1996). Also required was the training of Indian crew to man and manage these vessels, as well as the ability for Indian enterprises to acquire deep-sea fishing vessels (DSFV) and enter the export market. As a result of their experience with chartered foreign fishing vessels, it was anticipated that Indian entrepreneurs would construct a domestic fleet along similar lines (Murari Committee, 1996).

The 1986 Charter Policy enabled 97 businesses to operate 311 foreign fishing vessels.<sup>51</sup> Through charter, lease and joint venture permissions gained by Indian firms under these programmes, Taiwanese longliners of Japanese design equipped to operate multifilament longlines dominated the Indian seas from 1985 to 1996. During the time, a total of 189 Taiwanese longliners operated in the Indian EEZ. (Dixitulu, 2002). The majority of the chartered fishing fleet consists of Taiwanese vessels flying Panamanian or Honduran flags. The Northwestern coast has the biggest concentration of fishing effort (52 percent), followed by Andaman and Nicobar waters (15 percent) and the Southeast coast (13 percent) (Somvanshi and John, 1996).

Due to overcapacity in the shrimp trawling fleet, a decline in international prawn prices, a lack of professional managers and trained crew for specialised fishing, and inadequate post-harvest infrastructure and technology for processing non-shrimp resources, the DSF sector faced diminished returns on investment in 1987 (Murari Committee, 1996). This resulted in the formation of the Shipping Credit and Investment Company of India as the central funding agency for DSFVs. The Marine Products Exports Development Agency of India established domestic finance mechanisms for the conversion of domestic trawlers into longliners. In addition, revisions to the Charter Policy of 1989, which were not implemented, were proposed to address these difficulties. Instead, a combination of a new policy and the liberalisation of the Indian economy resulted in the next round of access arrangements.

### **Access under the Deep-Sea Fishing (DSF) Policy 1991**

In 1991, the Government of India sought the adoption of a new DSF Policy and, in tandem with the liberalisation of its economy, allowed the entrance of foreign-flagged vessels to its EEZ. The policy was the result of choices made at the inter-ministerial level to increase the domestic ability to use non-shrimp resources. This decision was echoed in a report presented by the Association of Indian Fishery Industries and the Government of India, which called for the redeployment by diversification of the activities of the existing fleet by equipping them with better on-board technologies such as winches, hydraulic longline drums, etc. The existing managers, skippers, and crew should be trained and motivated for this redeployment (Kurien, 1995).

The new policy allowed for the leasing of foreign fishing vessels to operate in the Indian EEZ, the test fishing of non-shrimp resources by foreign vessels, and joint ventures between domestic and foreign firms to target deep-sea prawn resources, tuna and tuna-like species through long-lining and purse-seining, and squid jigging. Lease and test fishing permitted Indian firms to charter and operate foreign-flagged fishing vessels, whereas joint ventures necessitated re-flagged vessels. The programme also permitted businesses to engage in international collaboration to establish export-oriented units for the manufacture of marine products with value-added in the country. In this phase, in contrast to earlier

<sup>51</sup> The presence of these longliners and the stern and pair trawlers that were operating in India under the Charter Arrangements remained and carried over to the joint venture phase. Reports indicate that policies such as the banning of pair trawlers, the cancellation of certain permits, etc. remained unimplemented (Murari, 1996).

programs, the emphasis was also on expanding onshore capacity to produce fishery products with a greater value for export and domestic markets (Murari Committee, 1996). In accordance with this approach, both first-generation (lease and test fishing) and second-generation (joint ventures) access agreements existed concurrently.

Due to the expansion of the domestic fishing fleet during this time period, the traditional Indian fishers opposed the leased and joint venture vessels with vigor. The formation of the National Joint Action Committee Against Joint Ventures (NJACAJV) has probably altered the trajectory of access agreements in India. A coalition of artisanal fishers, owners of small mechanised trawlers, and operators of export processing facilities, organised by the National Fishworkers Forum, NJACAJV have led multiple protests over the years, with the most successful occurring on 23–24 November 1994, when a million people associated with the fishing industry in India went on strike and the coastline came to a standstill (Kurien, 1995).

This period of protests prompted the Ministry of Food Processing Industries to appoint two review Committees, which issued two reports: the Report of the Committee on Operations of DSFV, 1994 (Sudarsan Committee) and the Report of the High-Level Committee to Review DSF Policy, 1996 (Murari Committee). The recommendations of the Sudarshan Committee called for spatial limitations for DSFVs, restricting traditional Indian fishers to the territorial seas and select portions of the EEZ. In addition, it demanded more intensive monitoring, such as the implementation of vessel tracking systems, catch monitoring, and detailed regulations regarding the exploitation and conservation of fishery resources.

In 1992, according to a survey conducted by a fisheries scientist (Shajahan, 1996) of 40 joint-venture vessels operating in the Indian EEZ, the net worth of the whole catch earned by the Indian counterparts was insufficient to purchase enough fuel for 150 days of operations. This indicates that with the annual fuel expenses and operational and crewing costs, the strategy was unprofitable for the Government of India and national firms. As stated by a review Committee: “However, when viewed against the long-term policy of Indianisation of DSF through joint ventures leading to Indian owned operations, the scope for future earnings through operations of the same level would result in five times of the present level of earnings.” (Shajahan, 1996).

The Murari Committee, on the other hand, suggested even further limitations, including the cancellation of all permits issued for joint venture, charter, lease and test fishing, as well as a suspension on the issuance of new licenses. Since the Committee was established in response to objections from the Indian fishing community, it granted fishers preferential access. It also proposed spatial closures in West, East and Island waters at various distances from the Indian shore. The report concluded by recommending that resource-specific vessels for tuna and tuna-like species, squids and cuttle fish, deep-sea finfishes in mid-water or pelagic regions, and oceanic tuna may be allowed for exploitation by tuna longlining, tuna purse seining, squid jigging and mid-water trawling, provided these are de facto Indian owned registered vessels (Murari Committee, 1996). This stipulated that 51 percent of the fishing firm’s equity had to be owned by Indian shareholders.

The Cabinet Committee on Economic Affairs approved the recommendations of the Murari Committee Report, and the DSF Policy 1991 was repealed. Since 1996, no new permits, extensions nor renewals of permits have been issued. There were no official access agreements in place for foreign vessels to fish in Indian waters for the following four years.

### **Access under the Export-Import Policy 2001**

Between 2000 and 2001, the Ministry of Commerce and Industry implemented the Export-Import Policy, which permitted the importation of foreign vessels through the Special Import License procedure. Thus, 11 Indian manufacturers imported 32 DSFVs in 2001 on a deferred payment basis during that year and started operations after registration with the Mercantile Marine Department of India

and on obtaining foreign crew clearances from Ministry of Home Affairs of India (Meenakumari Committee, 2014).

While these vessels did not have permission to operate in Indian waters, the Ministry of Agriculture granted the Letter of Permits, a scheme that allowed domestic firms to purchase foreign vessels such as tuna longliners and pelagic trawlers to operate in Indian waters. To fish in the Indian EEZ, the vessels were forced to change their flag to that of India.<sup>52</sup> This phase was characterised by access agreements of the second generation. Over the course of three years, the Indian firm would become the sole owner of the fishing vessel as part of the LOP arrangement. During this time, it was also anticipated that Indian fishers would be trained to work on these vessels and that a crewing transfer would coincide with the ownership transfer (Greenpeace, 2013).

A series of Guidelines established by the Ministry of Agriculture governed the operation of LOP vessels. Collectively, the Ministry defined DSF as activities conducted in the Indian EEZ by vessels over 20 metres in length (beyond territorial waters). The regulations outlined and implemented resource-specific fishing techniques, and in 2006, the yield potential was matched with the number of vessels. With the 2004 implementation of the Comprehensive Marine Fishing Policy, various restrictions on joint ventures were implemented, marking a shift from the previous phase's liberalised conditions. Under these new regulations, the stake of Indian firms in joint ventures had to be at least 51 percent, there had to be proof of shore-based processing capabilities, 100 percent of the catch had to be landed at Indian ports, and transshipments were prohibited. In order to give domestic firms with sole ownership an opportunity to participate in the sector, joint venture vessels were limited to no more than 25 percent of the indicated capacity per category. This phase reflects the next iteration of access agreements of the second generation.

Between 2008 and 2014, the Government of India modified access agreement regulations, attempted to liberalise requirements on registrations, reporting, transshipments and crewing, and developed national monitoring and compliance regulations. During this time, domestic firms were unable to take advantage of the joint venture program. By 2011, just 81 valid LOPs were in operation among the 725 vessels permitted to operate in the Indian EEZ. In 2015, according to the most recent accessible public records, just 12 Indian firms operated 41 DSFVs, all of which were tuna longliners. According to a 2014 review Committee (Meenakumari Committee, 2014), this was due to bureaucratic obstacles in the granting of security clearances on reporting mechanisms, and on licensing and operational procedures, as well as seasonal and temporary closures that limited the operations of these vessels.

On the other hand, sources (Pramod, 2010; Greenpeace, 2013) show that the joint venture scheme throughout the preceding decade was part of a tactic utilised by Taiwan Province of China-owned vessels to operate in the Indian Ocean and WIO region using dual flags. The Government of India had limited influence over the activities of these vessels and their violations include dual registration, under-reporting, illegal transfer of catches, failure to file shipping bills to the Customs of India listing the quantity of catch being taken out while exiting the Indian EEZ, and violations of the Maritime Zones of the Act of India (Pramod, 2010). This is likely reflected in the official numbers, in which the average capture of LOP vessels in the Indian EEZ since 2004 has been recorded as 1 240 tonnes per year, which is negligible compared to the possible total of 0.2 million tonnes of marine resources.

### **Post 2017: The National policy of marine fisheries**

Due to the continued low uptake of access agreements under the LOP scheme, a review Committee was appointed in 2014 (Meenakumari Committee, 2014) with the mission of bringing sustainability to near-shore fisheries, upgrading fisheries policies, and recommending the optimal harvesting of tuna and tuna-like species in the Indian EEZ.

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<sup>52</sup> According to a report by Greenpeace India titled "Licensed to Loot" the LOP was a system that India adopted from the practice undertaken by Taiwan Province of China.

The Committee advised that yellowfin tuna should be the principal focus of the Indian fisheries, with skipjack tuna, bigeye tuna and billfishes serving as a complement. Moreover, they suggested exempting the associated fishing vessels from the State's prohibition periods and restriction zones. On the basis of the potential yield beyond 500 metres of depth and its correlation with the existing fishing zones, the Committee suggested that 1 178 DSFVs be evaluated for deployment in the Indian EEZ. This resulted in the addition of 270 DSFVs to the current fleet, including 240 tuna long-liners, 15 purse seiners and 15 squid jiggers (Meenakumari Committee, 2014). While acknowledging the domestic capacity of Indian fishers, who had developed the capacity to exploit the deep-sea in tandem with access agreements, the Committee recommended that technology transfer through foreign collaborations be considered until India develops the domestic capacity to exploit DSF resources.

The report of the Committee was met with significant opposition from numerous parties, most notably the fishing industry in India. In certain areas, the report took back the constraints imposed by the Murari Committee in 1996 in response to the State-wide mobilisation under the NJACAJV, which finally led to the repeal of the DSF Policy, 1991. In response to protests and objections from regional coastal Governments, the Central Government revoked all access agreements in the Indian EEZ in January 2017. This was the result of five decades of mobilisation, and resistance to foreign investment and vessels in Indian waters, initially by the country's small-scale and artisanal fishers, then after liberalisation in 1991, by the country's traditional fishers against foreign vessels and domestic firms.

Since the repeal, the State policy has changed toward promoting indigenous DSFVs in order to exploit the species in the Indian EEZ below 500-metre depth contour. Additionally, these vessels are designed to exploit resources outside of the Indian EEZ. The largest allocation of funds under the current fisheries program Pradhan Mantri Matsya Sampada Yojana has been for units for acquisition of DSFVs for traditional fishermen. The draft National Fisheries Policy<sup>53</sup> seeks private domestic investment in DSF through the public-private partnership route and supports these investments through shipbuilding, the development of landing facilities, cold-supply chains, upgrading processing facilities to handle sashimi-grade tuna, and the skilling of domestic personnel.

In addition, there is a supplementary domestication policy that alludes to the evolving trajectory of access agreements in India and their separation from previous agreements. Based on a Build, Own, Operate, Transfer model, a Memorandum of Understanding was signed in 2020 and again in 2021 by two Kerala state enterprises and a US firm. The agreement calls for the construction of 400 DSFVs, the upgrade of harbours, and the establishment of seafood processing factories, with a total of 160 000 fishers as beneficiaries. First, this access deal is a North-South agreement, as opposed to the South-South agreements that India had previously signed. Second, it is a Memorandum of Understanding with a regional government initiative, shifting away from the domestic firms that have been the primary operating entities in the access agreements to date. Third, it extends the project length to between 20 and 25 years, a drastic shift from past access agreements that stipulated a timeline of three years for crew training and the transfer of ownership of the vessels.

This further illustrates the current presence of second-generation access agreements in India. Both options represent an industrial policy comparable to that of other nations investigating the connection between access and local development. However, the current global status of fish populations is far more precarious, which raises concerns about the investment's potential to face increased competition from fleets outside of India's EEZ, as well as from domestic and international firms within India's EEZ.

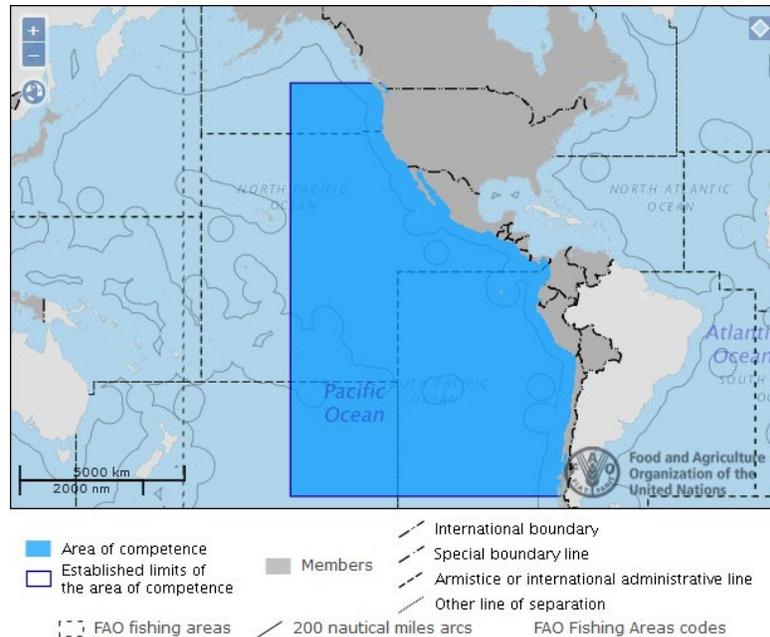
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<sup>53</sup> The National Fisheries Policy, 2020. Sixth Draft for consideration. 30 December 2022. Available here: <https://dof.gov.in/sites/default/files/2021-01/english.pdf>

### 3.3 Latin America

In the Eastern Pacific Ocean (EPO), coastal States individually regulate access to their EEZs, whereas coastal States and DWFNs manage access collectively through the regional RFMO IATTC (Figure 7). There is fishing activity in both national waters and the high seas. This section examines access considerations for longline and purse seine tuna fishing vessels in the region.

**Figure 7**  
**IATTC area of competence, high seas and national waters**



Source: FAO. 2022. Regional Fishery Bodies Map. In: *FAO Fisheries and Aquaculture Department*. Rome. Cited 18 October 2022. <https://www.fao.org/fishery/en/geoinfo>

To be permitted to fish in the IATTC region, longline vessels longer than 24 metres are required to register on the official Regional Vessel Register (henceforth, the Register). The Register contained 1 100 longline vessels during the beginning of 2010. Longliner catches of bigeye have specified tonnage limits in 2014 due to ecological concerns regarding this species. There are 55 131 tonnes assigned to China, Japan, the Republic of Korea, Taiwan Province of China and the United States of America (IATTC Resolution C-20-06). Since 2009, Belize, China, France (French Polynesia), Japan, the Republic of Korea, Spain, Taiwan Province of China, the United States of America and Vanuatu have provided IATTC with catch and effort statistics. The vast majority of albacore, bigeye and yellowfin tuna catches take place on the high seas and are therefore not subject to access agreements (IATTC, 2017). There has been debate about implementing a capacity target for the longline sector, although the maximum limits for longline capacity are much greater than the number of hooks being fished in EPO. And catches have been significantly lower than recommended catch limits in recent years (IATTC, 2014).

In the EPO purse seine tuna sector, which supplies the global shelf-stable tuna industry, IATTC governs access regionally through a target capacity that was implemented in the late 1990s in an effort to reduce fishing mortality for transboundary populations. In the IATTC Resolution C-02-03, Members have agreed to a target capacity and countries have a set overall capacity for their flag carriers (IATTC Resolution C-02-03). IATTC examined the legitimate interests and rights of coastal States, the

operational capability of each fleet as of June 1998, and determined how to allocate capacity among IATTC Members (IATTC Resolution C-98-06).

The movement towards a capacity resolution resulted in a “crowding in” to IATTC: countries joined IATTC aiming at guaranteeing future access to capacity. For instance, when the capacity resolution emerged, the rights of Guatemala and France as coastal States to operate tuna fishing fleets in IATTC were recognised for the first time (France via Clipperton Island and French Polynesia). Costa Rica was given capacity based on its status as a coastal State, its tuna processing facilities, its extensive participation in IATTC and its intent to purchase a fleet. Several other coastal and non-coastal Governments without tuna fleets initiated IATTC negotiations to have capacity awarded to them, where several States with minor quotas requested increases (Serdy, 2016).

The IATTC Resolution C-02-03 establishes the target capacity of 158 000 cubic metres in 2002 (IATTC Resolution C-02-03). The underlying premise of the resolution is that no new vessel or capacity could be added to the Register without the simultaneous removal of one or more purse seine vessels with a capacity at least equal to the change. However, this mission has utterly failed. Midway through 2021, the total active capacity recorded on the Register exceeded 270 000 cubic metres (Table 4).

Each State specifies independently how capacity will be distributed under its flag (see also section 1.2). A vessel must have access to capacity through its flag State in order to fish in zone or on the high seas inside the IATTC region. The Resolution C-02-03 further permits the transfer of capacity for any vessel from the authority of one IATTC Member or cooperating party to that of another. However, the target capacity does not specify national allocations or limits (Serdy, 2016). Rather, fleet constraints are mostly defined by the IATTC Regional Vessel Register; hence, the most important aspects of the Resolution are those describing how vessels may be added to or withdrawn from the Register. The flag State must provide proper documentation in order to be listed on the Register. The flag State must notify the IATTC Secretariat and have sufficient capacity available for a new vessel to be included. If it is replacing a vessel that has been or is in the process of being removed from the Register, that vessel must be named, and if the new vessel has just been issued its flag, evidence must be provided demonstrating both its new registration and the deletion of its old registration. A vessel, whether active or dormant, may be withdrawn from the Register at the flag State’s written request, at which point the vessel’s well-volume becomes available to the flag State. If a newly added vessel has a smaller well-volume than the vessel that was withdrawn, the flag State retains the excess.

Since the implementation of the capacity settlement, there have been numerous continuing conflicts regarding capacity. Guatemala and the Bolivarian Republic of Venezuela have frequently claimed specific capacity volumes. Colombia, a new IATTC Member that was not a Member when C-02-03 was enacted, has alleged a right to expand capacity.

In a few instances, States have transferred all or a portion of their available capacity to another Member. A process that is contingent on the original flag State not removing the vessel from the register: the vessel can then base itself in the port of another Member and reflag to it, increasing the capacity of the new State and decreasing the capacity of the prior State. In practice, however, vessel transfers are uncommon, thus fishing firms obtain access to fish in EPO by purchasing a vessel that is already registered.

Therefore, States lend their capacity temporarily to other States (including through vessel charter contracts) to allow vessel mobility in the IATTC Regional Vessel Registry, with the capacity staying within the originating State’s total capacity. The Resolution C-12-06 of the IATTC specifies the processes for loans and their reporting. Even though the capacity target has proven to be flexible, with no real firm upper limit imposed, States recognise that capacity is an asset – or has the potential to become one in the future if more restrictions are imposed. And therefore, even if a vessel that was registered in their jurisdiction on the Registry is sold, States generally retain that capacity for future use.

**Table 4**  
**IATTC active purse seine vessel registry, June 2021**

Country	Number of Active Vessels	Capacity (m <sup>3</sup> )
Colombia	14	14 860
Ecuador	109	85 770
El Salvador	3	6 202
European Union (Spain)	4	9 330
Mexico	53	62 340
Nicaragua	6	7 853
Panama	22	29 061
Peru	16	7 741
United States of America*	33	27 056
The Bolivarian Republic of Venezuela	20	26 889
<b>Total</b>	<b>280</b>	<b>277 102</b>

\*United States total does not include the 32 vessels referred to in the Resolution C-02-03 paragraph 12, which are authorised to fish in EPO for a single trip not exceeding 90 days in one calendar year, with no Dolphin Mortality Limit and with an approved observer on board.

Source: Inter-American Tropical Tuna Commission (IATTC). 2021. Vessel register. In: *IATTC*. La Jolla. Cited 8 June 2021. [iattc.org/VesselRegister/VesselList.aspx?List=AcPS&Lang=ENG](http://iattc.org/VesselRegister/VesselList.aspx?List=AcPS&Lang=ENG)

IATTC Members have a diverse array of industry structures. In some countries, the fishing sector is formed solely of domestic firms and capital that get access through their home State; in others, there is a combination of domestic and foreign access; and in still others, the registers are open. Each nation establishes its own licensing requirements for the purse seine industry (Hamilton *et al.*, 2011). For example, Mexico prohibits foreign fishing, and an entirely domestic fleet serves the country's extensive domestic processing industry. On the IATTC Vessel Register, there are 53 Mexican-flagged vessels with a total capacity of 62 340 cubic metres of fish. The Ecuadorian fleet is formed mostly of national capital, but also of long-term international investments, primarily from Spain. The IATTC vessel registry lists 109 vessels flying the Ecuadorian flag, with a total fish hold volume of 85 770 cubic metres. The Ecuadorian fleet supports the substantial Ecuadorian processing industry, and a number of processing firms are vertically integrated into vessel ownership. The purse seine fleets of Mexico and Ecuador are by far the largest in EPO. Mexico accounts for around 38 percent of yellowfin captures and 7 percent of skipjack purse seine captures. Ecuador is responsible for 26 percent of yellowfin purse seine catches and 58 percent of skipjack purse seine catches (IATTC, 2017). Due to the absence of a native industrial fishing fleet, Costa Rica relies solely on foreign fishing, and in some cases, access agreements mandate offloading at Costa Rican firms. Panama, which has no domestic industry, has an open register and charges fees for vessel licenses (Hamilton *et al.*, 2011). The specifics of such access agreements are not known to the public and require additional study, notably about perceived national policy objectives.

Inter-State access regimes include the IATTC capacity Resolution, and the effort-based management VDS coordinated by PNA (see section 3.4). Both are worthy of consideration in a comprehensive review of access for a variety of reasons. First, they argue that fleets seeking access will continue to be affected by regional fisheries management decisions that will shape the allocation of capacity, effort, and/or quota at the national level, and will participate directly in those decisions. Second, they introduce the possibility of capacity, effort, or quota transferability across nations as a new element of access (Aqorau *et al.*, 2020). As indicated, certain IATTC Members lend capacity to others and the VDS enables PNA Members to buy and sell days to one another (see section 3.4). Thirdly, there are discussions regarding the development of tools such as quotas and effort caps in inter-state fisheries management arenas, for an increasing number of species and in the high seas (FAO, 2020a). This indicates that discussions over access are likely to remain very relevant in multistate bodies and other major venues that will influence the future structure of access relations.

### Box 6

#### European and Asian fleet access to Argentine waters in the neoliberal era

In the 1990s, Argentine fisheries extraction increased rapidly as a result of the opening of the country's EEZ and a broader policy change toward global economic integration and deregulation, which was fueled in part by structural adjustment. Fleets from Asia and the European Union were granted access to the EEZ, which led to a significant increase in fish extraction and export. In the years since, the agreements that made this possible have been criticised for their lack of economic and policy benefits for Argentina and their deleterious impact on fish stocks.

Focusing on squid fisheries accessed through first-generation access arrangements, charter agreements with capital from Japan, the Republic of Korea, China and Taiwan Province of China rose in the early 1990s. Although it can be difficult to uncover the terms and circumstances of first-generation access agreements, it is thought that each squid jigger vessel paid between USD 150 000–200 000 per year, giving the Government of Argentina an annual income of approximately USD 10 million (Onestini and Gutman, 2002). In the case of Japan, the Government of Japan provided funding for research, technological advancement and collaboration with Japanese organisations. These were enabled by the Japan International Cooperation Agency and OFCF, a non-profit corporation that implements cooperative programs under general direction and with funding given by the Government of Japan (Onestini and Gutman, 2002).

The European Union also entered Argentine waters in the early 1990s, establishing second-generation access agreements with Argentine corporations through joint ventures, especially targeting hake. As domestic fisheries faced overcapacity and overexploitation, the European Union attempted to extend its supply sources. The Argentine Fisheries Law of 1992 authorised Argentine firms to charter foreign vessels, which increased captures and decreased hake prices. In 1993, the European Union and Argentina reached a fisheries deal that provided European firms access to the Argentine EEZ in exchange for a decrease of two-thirds in European Union tariffs on some Argentine exports. This deal also obtained financial support from the European Union and comprised 29 fishing vessels (Dudek, 2013). European and Argentine corporations would form joint ventures on the basis of incentives, primarily subsidies, stipulated in the agreement. The Spanish vessels in joint venture and joint firms agreements in Argentina were 82 percent (IFREMER, 1999). During the middle of the 1990s, Argentina was the second-largest supplier of seafood to the Spanish market. In addition, while the regulations of the European Union restricted fishing in European waters, such restrictions did not apply to European firms fishing outside of European waters. The European Union reported that the transfer of vessels into joint ventures with Argentine nationals accounted for one-third of the entire reduction of the European fleet and solved the issue of access to third-country resources (Dudek, 2013).

However, in 1998, Argentine hake populations were severely reduced, prompting the government to enact an emergency law that restricted the total allowable catch. In addition to increased capacity, records indicate that hake extraction significantly surpassed the established total allowable catch. Even without taking into consideration evaluations of unreported capture, bycatch, discards, etc., reported landings in 1997 were 47 percent above the total allowable catch, while in 1998 they were 36.6 percent above the total allowable catch (Onestini and Gutman, 2002). In 1999, the agreement between the European Union and Argentina was not extended, but many of the participating firms were already integrated into the economy of Argentina. These agreements of the second-generation have been strongly criticised for largely benefiting private firms from the European Union – particularly Spain. Between 1993 and 1999, the European Union provided USD 203 million for the establishment of joint ventures (Kaczynski and Fluharty, 2002). Specific data include USD 96.3 million for European firms engaged in joint ventures, and USD 33.6 million for scientific and technical collaboration with the Government of Argentina (Dudek, 2013).

### 3.4 Pacific Islands

This section focuses exclusively on the contemporary access arrangements utilised by PICs. It compares the VDS for purse seine and tropical longline fisheries, the emerging Tokelau Arrangement (TKA) and SIDS objectives and chartering arrangements. It does not cover second-generation access arrangements, like those proposed by Japan in the 1970s (see section 2.1) and the Philippines since the 1990s (see section 2.8).

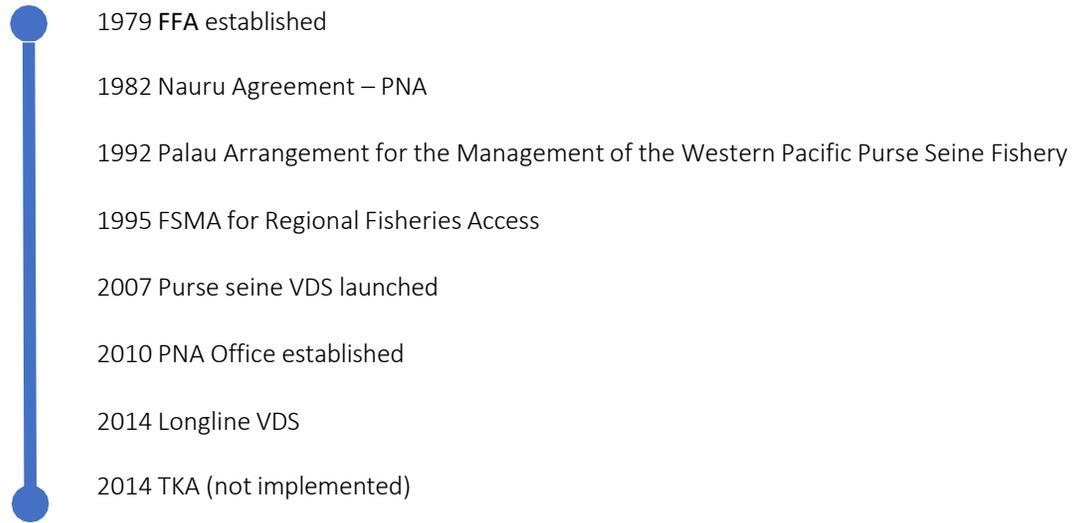
The Purse Seine VDS was established under the PNA and went into operation in 2007. It is the key access and management instrument for the WCPO purse seine fishery. The fundamental concept of the PNA purse seine VDS is that by limiting access to the fishery, its value will increase. This concept has been successful for the purse seine fishery resulting in substantial gains in fishing access revenue for PNA Members from over USD 60 million in 2007 to over USD 500 million in 2019. However, the effectiveness of this strategy is primarily dependent on the fact that around 90 percent of purse seine fishing effort happens in PNA waters (Campling *et al.*, 2017).

The VDS is incorporated into CMM for Bigeye, Yellowfin and Skipjack Tuna by WCPFC (CMM 2018-01). The VDS is an effort control system in which an annual collective limit on the number of fishing days in PNA EEZs is established called total allocated effort. Each PNA Member is allotted a percentage of the total allocated effort that can be fished in their EEZ based on their previous in-zone effort (party allowable effort or PAE). Originally, the PAE formula also included a weighting in-zone biomass. Since 2012, the annual total allocated effort in PNA EEZs has been fixed at 44 033 days (based on 2010 effort levels in accordance with CMM 2011-01). Tokelau, a non-PNA Member, joined the VDS in 2013, resulting in the addition of 972 days to the total allocated effort, which was 45 005 days in 2018 (PNA + Tokelau). This level has been chosen provisionally for 2019 and 2020. (PNA, 2019b). Since 2012, the actual number of fishing days in PNA EEZs has not surpassed the total allocated effort of 44 033 days. The range of fishing days between 2012 and 2018 was 32 259 to 43 944. The VDS fishing days are allotted to purse seine vessels fishing in PNA waters under domestic, bilateral or multilateral access arrangements (i.e. the United States of America Treaty, the Food Security and Modernization Act and the Sub-Regional Pool).<sup>55</sup>

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<sup>55</sup> Five Purse seine VDS parties (the Federated States of Micronesia, Nauru, Solomon Islands, Tuvalu and Tokelau) have established a Sub-Regional Pool which provides vessels with multilateral access to these five fishing zones; Sub-Regional Pool fishing days are priced higher than bilateral fishing days.

**Figure 8**  
**Evolution of PICs access arrangements**



*Source:* Authors' own elaboration.

Through Implementing Arrangements, the PNA applies additional purse seine management procedures to vessels fishing in PNA waters. The Third Implementing Arrangement (3IA) stipulates the minimal conditions outlined below:

- all bigeye, skipjack and yellowfin catches must be retained on board;
- no fishing on fish aggregation device for three months (from 1 July to 30 September);
- no sets on whale sharks;
- no fishing in two high seas areas;<sup>56</sup>
- 100 percentage observer coverage and automatic location communicator reporting at all times;
- minimum net mesh size; and
- no bunkering on the high seas (PNA, 2008).<sup>57</sup>

At the beginning of January 2020, the Fourth Implementing Arrangement (4IA) stipulates registration and tracking procedures for fish aggregation device buoys (PNA, 2019a). The tropical tuna measure of WCPFC (CMM 2018-01) also applies some measures that are compatible with PNA 3IA.

<sup>56</sup> The area of high seas bounded by the national waters of the Federated States of Micronesia, Indonesia, Palau and Papua New Guinea; and the area of high seas bounded by the national waters of the Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Papua New Guinea, Solomon Islands and Tuvalu.

<sup>57</sup> Amended 1 May 2019

In 2014, PNA Members established a minimum benchmark price of USD 6 000 per VDS fishing day for foreign vessels, this was increased to USD 8 000 in 2015 and has remained unchanged since. However, fishing days are being sold for significantly more than this minimum baseline. The pricing range for bilateral fishing days is between USD 9 500 and USD 11 000, whilst multilateral fishing days under the sub-regional pool and the Treaty are priced at USD 12 500 and USD 13 600, respectively. PNA Members currently sell vessel days for a twelve-month term. Reconciliation of non-fishing days and tracking the utilization of fishing days for vessels with bilateral and multilateral fishing days continue to present obstacles (Havice *et al.*, 2019).

Five Parties, including the Federated States of Micronesia, Marshall Islands, Nauru, Solomon Islands, and Palau, signed the Palau Arrangement in November 2014, allowing the PNA longline VDS to go into force.<sup>58</sup> As the majority of PNA waters are located inside the tropical zone of WCPO (20°N-20°S), the longline VDS is a management scheme for the tropical longline fisheries targeting bigeye and yellowfin. The purpose of the longline VDS is to enable PNA Members acquire more control of the tropical longline fishery by securing rights to the fishery in their waters, maximising the value of fisheries access and ensuring the sustainable management of longline tuna resources. In addition, PNA Members are allowed to request that the WCPFC implement compatible management measures in the remaining WCPFC Convention Area, particularly in the high seas, where most of the tropical longline fishery's effort is now concentrated (Campling *et al.*, 2017).

Similar to the PNA's Purse Seine VDS, the longline VDS creates a total allocated effort level for fishing in all parties' waters, which is subsequently distributed as PAE among the parties. The initial total allocated effort established in 2014 was 130 000 fishing days. In 2016, the parties agreed to a five-year total allocated effort of 165 132 days (encompassing PNA Members as well as Tokelau). This total allocated effort is not founded on science; rather, it represents the total PAEs based on their individual development and objectives, as well as their willingness to limit effort to improve conservation. For instance, the total allocated effort of Papua New Guinea was 20 000 days, significantly higher than the historical longline fishing effort in its zone, whereas the PAE of the Solomon Islands was 29 342 days, lower than its maximum level of fishing effort. Initially, the PAE calculation was based on an allocation key and a number of models were established based on historical catch/effort and EEZ area. This model determined the optimal PAE for each Party.

Eleven PICs agreed to the TKA in 2014, which is a voluntary in-zone-based management arrangement for the Southern albacore longline fishery for vessels fishing within their EEZs as a target species or bycatch. The Catch Management Agreement at the core of TKA provides for the establishment of an overall total allowable catch and the distribution of that total allowable catch among the Members.

In contrast to the purse seine VDS, the majority of effort in the tropical longline fishery (about 60–70 percent) occurs on the high seas, not in PNA EEZs. In recent years, from 30 to 40 percent of the effort in the southern longline fisheries was expended at high sea. This reduces the influence of PICs in longline fisheries.

The formation of the Palau National Marine Sanctuary (PNMS) became effective on 1 January 2020, thereby banning purse seine fishing from 80 percent of the Palauan EEZ. Despite the fact that the Palauan EEZ has never been very attractive for purse seine fishing, this may have had a disproportionate impact on Japan's purse seine fleet, which has historically fished in Palau's EEZ. Even though the economy of Palau is mostly dependent on tourism, fishing access fees accounted for 12 percent of total government revenue between 2014 and 2017 under the VDS, primarily through the sale of days to other PNA Members (PICRC and COS, 2019). In 2016, Palau received an estimated USD 5.3 million in VDS funding (Republic of Palau, 2017). In July 2015, prior to the legal designation of PNMS, the Government of Palau communicated with PNA Members requested endorsement of PNMS and expressed its desire to maintain its PAE. The continuation to trade the allocation of Palau with PNA

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<sup>58</sup> Palau Arrangement for the Management of the Western Pacific Tuna Fishery – Management Scheme (Longline VDS), adopted March 2015.

Members would provide to PNMS the conservation benefits for regional tuna conservation goals by protecting juvenile tuna and other species.

Since 2015, the Phoenix Islands Protected Area has restricted fishing in 11 percent of waters of Kiribati. Kiribati formed the Phoenix Islands Protected Area in 2008 prior to the implementation of VDS. The economy of Kiribati relies heavily on access fees and between 2014 and 2018, it had the largest tuna catch among PICs annually (Government of Kiribati, 2016; Reid, 2019). The Government of Kiribati signed a conservation contract with Conservation International and the New England Aquarium to establish the Pacific Island Parties Area Conservation Trust Fund in order to shield Kiribati from the economic costs associated with prohibiting fishing in the Phoenix Islands Protected Area (PIPA Trust). The Trust may reimburse the Government for revenue loss caused by the Phoenix Islands Protected Area. However, Kiribati is still able to sell its full quota of vessel days, notwithstanding the closed area (Gruby *et al.*, 2021).

### **SIDS aspirations**

The WCPFC Convention, CMM for tropical tunas (CMM 2018-01) and PNA 3IA all respect the right of SIDS and territories to promote their domestic fisheries. SIDS-flag purse seine vessels are exempt from WCPFC high seas fishing effort limits and flag-based purse seine vessel number restrictions. PNA-flagged vessels are eligible for exemptions from the three-month fish aggregation device closure in PNA EEZs under the 3IA if a PNA Member considers that it has suffered a disproportionate burden from the application of the closure and informs other PNA Members accordingly (Havice *et al.*, 2019). The re-flagging and chartering of DWFN vessels to PICs have been the principal means through which domestic purse seine fisheries have developed in the WCPO. As stated previously, the PIC fleet has grown substantially in recent years. Although some DWF businesses have sincerely committed to assist PICs in developing their domestic purse seine fisheries, others may be re-flagging or chartering vessels to secure reduced fishing access and SIDS exemptions from essential management standards. This has been a source of consternation for some DWF vessels flying flags other than the PIC flags, many of which support the development aspirations of SIDS but raises concerns of not supporting the economic development and not creating a level playing field.

Since the beginning of the WCPO tuna fisheries, vessel chartering agreements have played a key role and are meant to encourage PIC involvement. Typically, a wholly owned corporation is established in PICs and vessels are registered as domestic or the PIC corporation charters the vessels, which sometimes are designated as locally-based foreign. A WCPFC CMM mandating charter notification processes was formed for the first time in 2008 and has been upgraded four times since then (WCPFC, 2018). The CMM delivers, amongst other things, the following:

- Formal notification by Members and Cooperating Non-Members of WCPFC and Participating Territories to WCPFC of the charter, lease or entry into other mechanisms with fishing vessels and carriers for the purpose of conducting fishing operations in the Convention Area as an integral part of the domestic fleet of the chartering Member of Participating Territory;
- Listing on the WCPFC Record of Fishing Vessels and no record on the WCPFC IUU vessel list or IUU list of another RFMO;
- Each year the Executive Director shall present a summary of all notified chartered vessels to the Commission for review; and
- Catches and effort of vessels notified as chartered under CMM 2016-05 shall be attributed to the chartering Member or Participating Territory.

The 2018 WCPFC summary of chartered vessels listed 383 longline vessels, 12 purse seine vessels and no fish carriers on 28 November 2018. All twelve purse seine vessels listed were Chinese; ten were contracted to Kiribati and two were hired to Marshall Islands. Under SIDS exemptions, Kiribati charters allow vessels to fish-on-fish aggregation devices within the Kiribati EEZ during the full year, which is viewed as an incentive to charter there. Other 14 more Philippine-owned vessels and 19 Philippine-

flagged vessels in the Papua New Guinea fleet are operated by firms other than the vessel owners. Even though these contracts are not reported as charters to WCPFC, Papua New Guinea is nonetheless credited with the catches. Nevertheless, charters as defined by WCPFC play a negligible part in the WCPO purse seine fishery, contributing a minimal proportion of total catches, but a far greater role in the longline fishery.

Access can also be gained by the formation of joint ventures between a foreign investor (or investors) and a PIC partner. Joint ventures exist in numerous forms in PICs, with the purse seine and/or processing sectors being the most common. It is difficult to gather information regarding the commercial arrangements of joint ventures. It appears that the Republic of Korea (ten in Kiribati, two in Nauru and one in Tuvalu) and Japan (five in the Federated States of Micronesia) favour the joint venture model (Havice *et al.*, 2019). Joint venture agreements have been favoured over charter arrangements by Korean firms, with joint ventures established directly the government (e.g. Kiribati) or government corporations (e.g. Nauru Fisheries Development Corporation) and, in some instances, another firms. Typically, the host government is obliged to purchase between 25 and 50 percent of the equity; vessels are renamed upon re-flagging, and the joint venture business is given a local name. A Board of Directors is appointed and meets twice yearly to make policy decisions, authorise dividend payments, etc.

The revenue from the Treaty (see section 2.6) is substantially less significant to PICs than it once was. This is especially true for PNA Members that have effectively increased access fees in bilateral agreements and, as a result, have less interest in financing the non-PNA group through the Treaty. All PIPs are cognizant of the historical relationship and the fact that the American fleet adheres to stringent operating and reporting regulations.

## 4 REFLECTIONS

The high-level mapping of access agreements between resource-seeking entities and resource-owning developing countries emphasises first and foremost that access relations are a fundamental aspect of fisheries worldwide: they shape and are shaped by policies and practices of fisheries management, as well as national and global markets and trade. This transforms fish from a managed resource into an essential component of food systems around the world. Despite the prevalence of access relations, the mapping reveals that each access arrangement reflects the “environmental conditions of production” in each distinct fishery – the changing combination of regulatory, commercial and ecological conditions that form dynamic extraction practices (Havice and Campling, 2017); as well as the historical and current institutional and political relations within the sector. In other words, although access arrangements can be classified into broad categories such as first-generation or second-generation, which indicate the extractive practices and policy ambitions of participants, the actual functioning and experience is place and context-specific. For example, the potential for onshore investments related to access or the potential for conflict between DWFs and SSF will be different for demersal and pelagic fisheries. This will be influenced by factors such as the presence or absence of civil society or organised labour, shifting geopolitical concerns related to political influence/recognition and official development assistance, and the historical institutional and legal structures of global, regional, and national latitudes. These criteria differ from fishery to fishery. Hence, while efforts toward “best practices” in access agreements are vital, the nature and consequences of access agreements and proposals will ultimately be a case-specific empirical matter.

The assessment also identifies and focuses on businesses, notably those with capital predominantly headquartered in resource-seeking governments, as the primary beneficiaries of access relations. Small and private organisations that operate one or two vessels to large and vertically-integrated firms that own fishing vessels as well as other parts of seafood production, such as processing and branding. State-owned firms are also a significant component of numerous fleets. Reading the entire assessment makes it clear that these firms can acquire access in various ways, including registering and flying their national DWFN flag, flying a third country flag or registering with or complying with policies and laws in resource-owning States that give access. This demonstrates the continual necessity to comprehend and analyse business structure in order to evaluate the potential economic and social implications of access techniques. Moreover, the range of rents that can be extracted from firms is contingent upon their operational and regulatory structures, as well as their positioning within the global value chains (GVC) of which firms are a part (Havice *et al.*, 2021). While all firms seek to generate profit, some do so more efficiently than others, and decisions regarding access impact that profitability.

Countries, including both flag States and resource-owning States, provide the legal framework for access agreements. Flag States define restrictions that firms operating under their flag must comply by, these include operational, labour, reporting and insurance obligations. Since operating laws vary widely between flags, it can affect the running costs of fishing firms. Flag States also define access through geopolitical relations and policy instruments like as the provision of the official development assistance and the specifics of trade policy, both of which have been directly or indirectly related to access issues throughout history. Resource-owning governments have varied degrees of sovereignty over fish in their EEZs, depending on the location of the fish (e.g. whether they are in territorial waters or not) and whether they are highly migratory or part of straddling stocks. Despite these disparities, resource-owning States demonstrate their control over national resources by imposing access terms and conditions in relation to broader national economic and environmental objectives of economic development, sustainability and geopolitical alliances.

Multiple forms of civil society organisations are increasingly affecting the debate surrounding access and attempting to directly change the terms of access through lobbying and direct action. These organisations range from small-scale, locally-focused fisher groups to some of the largest international environmental NGOs. While power continues to be mediated through negotiations between resource-owning States and resource-seeking States and firms, intermediaries play an increasingly important role

in advocating for different terms and conditions in access agreements. This by highlighting sites and sources of conflict that access agreements can generate, pointing to illicit activities that operate outside the legal terms of access agreements and pressing for transparency surrounding the terms of accession.

As a result of these intersections, the terms of access mediate economic returns to firms, as well as governmental power and interstate relations. Given that access arrangements are constituted of relationships between resource-owning States, and resource-seeking States and foreign firms as well as a broader group of societal stakeholders, it appears evident that control of and access to fishery resources are not exclusively national. It is important to note, however, that although State sovereignty can be reflected when landlord governments adopt access regimes for fisheries, their sovereignty is only actualized when foreign firms and States negotiate and enter into access arrangements and carry out extraction. In other words, access arrangements are thoroughly relational. They are negotiated between States and corporations, entangled in domestic, regional and global geopolitics, evaluated by civil society organisations and materialised with and through the characteristics of the fishery in question and its rendering through extractive techniques, regulatory practices, and scientific knowledge and management.

The legal and technical forms that access arrangements (and broader relationships) adopt in this setting vary considerably. The empirical reviews demonstrate how these structures are implemented in practice and that they are temporally dynamic, as resource-owning and resource-seeking governments and corporations adapt, and experiment with the forms of access agreements to achieve their changing goals and purposes.

Despite the fact that many access arrangements are bilateral in nature, the mapping study reveals many instances in which resource-owning governments have collaboratively regulated access when they share governance of straddling stocks. In the case of the PNA, regional cooperation has strengthened the ability of resource-owning States to shift the terms of access in their favour in order to increase access fees and incentivize firms to engage in a variety of “domestication” practices, albeit to varying degrees of success. However, the perceived national interests of countries participating in these types of collaborative methods to access management can and do vary considerably. These disparities provide obstacles for resource-owning States attempting or participating in collaborative access management.

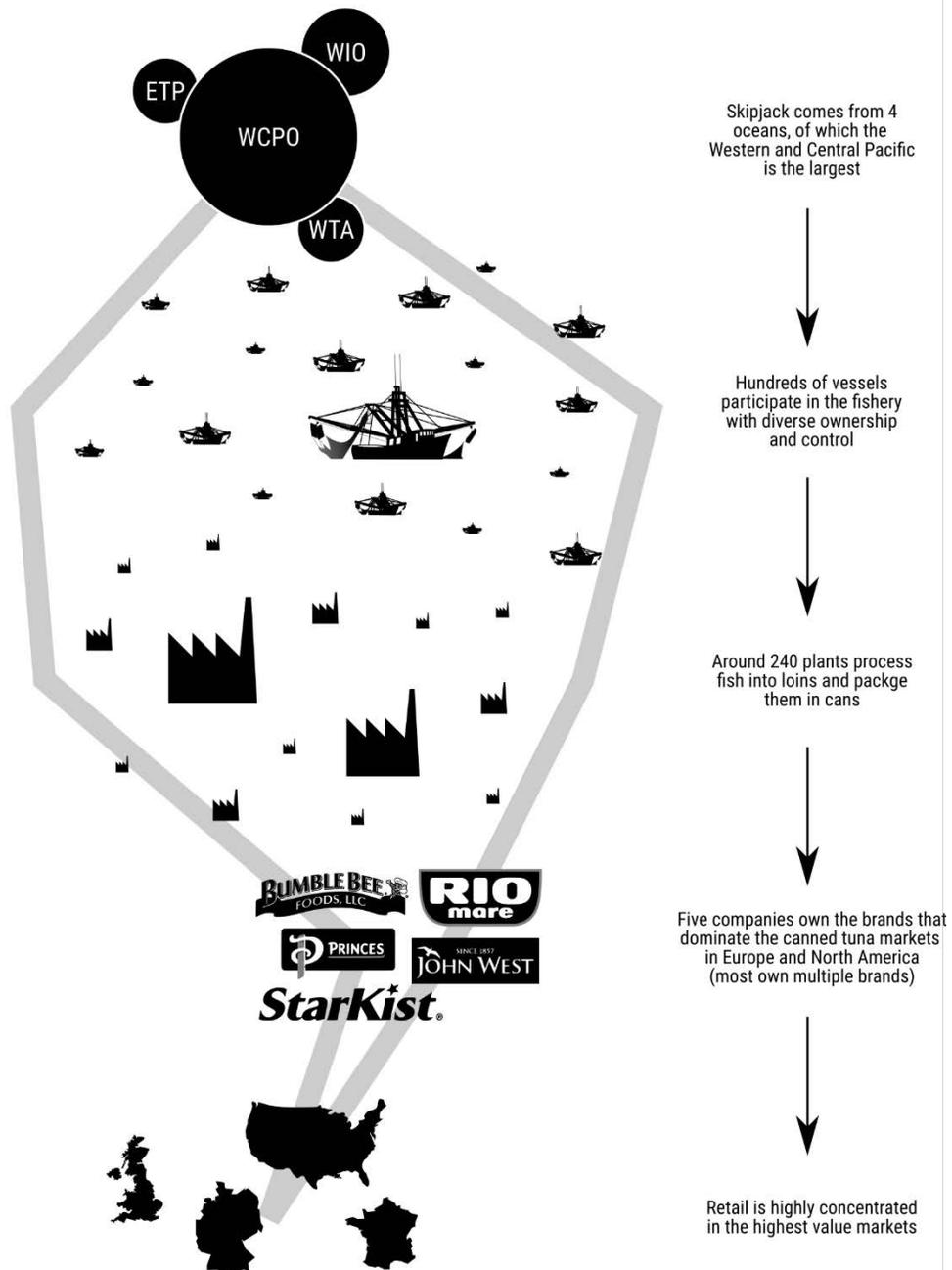
The ability to generate income from access arrangements strengthens a fishery’s position as a public asset, according to a key finding of this investigation. This information should be in the public domain if access is provided for free or if discounts are applied to encourage domestication. For instance, if government revenue is forfeited to induce domestication (second-generation access arrangements), then this loss of public revenue must be accounted for, even by economics or finance ministries outside of fisheries agencies. Except for the Treaty and European SFPAs, the terms and circumstances of access are opaque, despite the fact that a number of initiatives are currently underway to increase openness. Inspired by Senegal’s 2016 Mining Code, the African Confederation of Artisanal Fishing Organisations (CAOPA) has proposed a series of actions for governments to implement addressing firms fishing under access arrangements (CAOPA, 2020). This Code mandates that all mining title holders adhere to Extractive Industries Transparency Initiative’s (EITI) concepts and criteria. Thus, every holder of a mining title is required to report all mining revenues. The Mining Code further stipulates that 0.5 percent of mining businesses’ pre-tax earnings must be allocated to the Local Communities Support Fund and that 20 percent of State revenues from mining activities must be paid to this fund. In addition, the Mining Code stipulates the formation of a fund for the rehabilitation of mining sites, which is to be paid for by all licence holders. Civil society and environmental organisations note that the same concepts might be used to fisheries in accordance with the FiTI Standard’s criteria. Publication of listings of vessels with valid licenses, fees paid, fishing agreements, etc. These calls are also cognizant of the importance of private and public local partners in joint venture fishing firms, and urge to provide accurate and relevant information on their activities, structure, and financial status.

The analysis also suggests a widespread tendency among resource-owning States to experiment with methods to boost domestic returns from access arrangements. Depending on the domestic political economy, there are numerous types of ‘return’ that are of interest: geopolitical influence, profits from licensing, local job creation, and ‘value added’ industry, each of which demands a particular policy strategy. From the perspective of tax collectors in developing countries, resource access revenue is the holy grail that circumvents most of their challenges due to the difficulty of collecting tax from foreign firms, the tendency for taxes to distort private sector activity, and the dangers of attempting to “broaden the tax base” to include small and micro-firms (e.g. in dampening activity).

From the standpoint of industrial policy and fisheries GVCs, industrial “upgrading” is favoured over the maximization of rent capture in the form of government revenue; for instance, through the ownership of vessels and/or processing units. Yet, the outcomes of such efforts have been mixed, and the tendency to aim for “upgrading” can ignore or downplay what we know about multinational firms systematically avoiding tax (e.g. transfer mispricing), lead firms in GVCs capturing value from suppliers through their market power (e.g. through mark-ups that are not passed on to consumers), and the fact that less concentrated suppliers in GVCs are caught in a cost-price squeeze (UNCTAD, 2018).

Consider the GVC in tuna in a can as an illustration. There are major bottlenecks in this GVC, and it lends relative market dominance to the five firms who hold the world’s leading canned brands, as well as to the retailers that concentrate food sales in key areas ( Figure 9) (Havice and Campling, 2018). The World Bank acknowledges that dominant corporations, such as those controlling branding and/or retail, concentrate markups, while suppliers, such as processors of non-branded canned tuna, are squeezed (World Bank, 2020). The risk for coastal States using discounted access to engage in forward integration into processing is that the rent captured from the public asset is lost in the private plant, and unless the plant (or cluster of plants) is large enough to command leverage in the GVC through enormous volumes, it will be a price taker, resulting in net losses for the resource holder. This is exacerbated by a frequently extreme information asymmetry between the private firm and the government, which can enable the private firm to use the public asset to bank (transferred and untaxed) profits while providing jobs and other economic benefits that are a fraction of the access revenue forgone. Owning the asset, on the other hand, permits the capture of value from elsewhere in the supply chain and, in some instances, permits the extraction of large rent from the harvest sector without assuming the accompanying risk of vessel ownership (Campling and Hetherington, 2021).

**Figure 9**  
**Concentration in the canned tuna value chain**



*Sources:* Havice, E. & Campling L. 2017. Where Chain Governance and Environmental Governance Meet: Interfirm Strategies in the Canned Tuna Global Value Chain. *Economic Geography*, 93(3)292–313; Campling, L. & Hetherington, D. 2021. *Review of the forum leaders' decision to increase economic returns from fisheries*. Commissioned by the Interagency Working Group of FFA, PIFS, PNAO and SPC.

Risk is a consideration in access strategy. When the fisheries are viewed as a public asset, strong analytical tools become available that can add depth and subtlety to discussions about risk. Protection of a public asset entails recognising and mitigating or removing any significant threat to the asset (e.g. unsustainable fishing permanently threatening the value of the asset or second-generation access that extracts gains from a coastal State and acts as temporary revenue foregone). When a coastal State's focus is on broader socioeconomic returns, such as employment, it may be worthwhile to consider whether access revenue from fisheries could be used more effectively to pay to support job creation in non-fisheries industries, cross-sectoral investments in infrastructure or education that create jobs.

In conclusion, access arrangements are a major issue in fisheries management, production and trade. Given their historical and contemporary significance, there are a myriad of access-related research and policy analysis problems that require further investigation, including:

- What role will access play in the future of ocean-related geopolitics, especially given the growth of China in global fisheries in particular?
- Directly and indirectly the official development assistance and capacity-building funds have long been a part of fisheries access arrangements. In the future, greater emphasis could be placed on determining whose capabilities the official development assistance the official development assistance is enhancing. Is it always applicable to local contexts? What is the objective of funding for fisheries development? And may it have unintended consequences (such as training public officials who leave to work for the private sector)?
- Given that resource-owning States have a vested interest in maximising their returns from access, what can be gained from efforts to utilise access to advance State domestic policy agendas? How effective are domestication strategies? And under what conditions does domestication generate the expected or intended results?
- Under what conditions are perceived national interests adequately represented in access arrangements? And how can access arrangements be formulated to address conflicts and competing interests, such as those between DWFs and domestic/small-scale fishers or trade-offs between maximising export revenue, supporting robust national/local fish markets and meeting food security or food sovereignty needs?
- What forms of monitoring, control, and surveillance techniques, and technology could help improve the transparency, effectiveness and equity of access arrangements? What is the relationship between these technologies, and the legislation that govern resource exploitation and access agreements?
- What scenarios will resource-seeking and resource-owning States face and plan for in the future as environmental change reshapes the geopolitics of ocean governance and the location and population dynamics of fish stocks targeted through access arrangements?
- Fisheries within an EEZ are State property, and thus, an asset that resource-owning States manage in the interest of their populations. What strategies can most effectively enable states to ensure that access arrangements are meeting this objective? While most access arrangements are protected from public scrutiny by confidentiality clauses, is it possible to maintain confidentiality while creating strong oversight of the terms and conditions of arrangements? What effects might movements towards more transparency in access arrangements have on the terms and conditions of access? What political processes are required to enhance the transparency of access arrangements? How might models of transparency from terrestrial extractive sectors be applied to the fisheries context?

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