UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Technical and statistical report

International fisheries access agreements

Challenges and opportunities to optimize development impacts

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List of acronyms

ABNJ	(Marine) Areas Beyond National Jurisdiction
AIS	Automatic Identification System
BBNJ	Biodiversity of Areas Beyond National Jurisdiction
CBD	Convention on Biological Diversity
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CDS	Catch Documentation Scheme
CFP	Common Fisheries Policy of the European Union
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COFA	China Overseas Fisheries Association
DSF	Deep-Sea Fisheries
DWF	Distant-Water Fishing
EEZ	Exclusive Economic Zone
EPA	Economic Partnership Agreement
FAD	Fish aggregating device
FAO	Food and Agriculture Organization of the United Nations
FFA	Pacific Islands Forum Fisheries Agency
FoC	Flag of convenience
GFW	Global Fishing Watch
GVC	Global value chain
HMTC	Harmonized minimum terms and conditions for fisheries access agreement in PICs
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
IOTC	Indian Ocean Tuna Commission
IUU	Illegal, Unreported and Unregulated fishing
KOFA	Korea Overseas Fisheries Association
MCS	Monitoring, control and surveillance
MSC	Marine Stewardship Council
MSY	Maximum sustainable yield
NGO	Non-Governmental Organization
OACPS	Organization of African, Caribbean and Pacific states

OECD	Organization for Economic Co-operation and Development
OFP	Oceanic Fisheries Programme (OFP) of the Pacific Community
PICs	Pacific Island countries
PNA	Parties to the Nauru Agreement
PSMA	Agreement on Port State Measures to Prevent, Deter and Eliminate IUU fishing
RFMO	Regional fisheries management organization
SADC	Southern African Development Community
SCM	(WTO Agreement on) Subsidies and Countervailing Measures
SFPAs	Sustainable Fisheries Partnership Agreements
SIDS	Small Island Developing States
SPC	Secretariat of the Pacific Commission
SPREP	Secretariat of the Pacific Regional Environment Programme
TDS	Trade documentation scheme
RTMs	Restrictive Trade Measures
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
USP	University of the South Pacific
UVI	Unique vessel identifier
VDS	Vessel day scheme
VGFSP	Voluntary Guidelines for Flag State Performance
VGCDS	Voluntary Guidelines for Catch Documentation Schemes
VMS	Vessel monitoring system
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
WIO	Western Indian Ocean
WTO	World Trade Organization

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Executive summary

Fisheries provide significant potential for many countries, particularly developing and least developed countries (LDCs). These benefits range from revenue generation to opportunities for value addition, export diversification, job creation, food security, poverty reduction, community development and other important cultural contributions. As with many agricultural exports, if sustainably harnessed, there are dynamic gains to be achieved. These can be key for fostering competitiveness, meeting food quality and safety standards, as well as facilitating technological upgrading and production linkages in the fisheries sector.

Beyond the national fishing effort, distant water fishing (DWF) has existed for centuries and has enabled many nations, mainly from Asia and Europe, to seek far away fishing grounds around the globe. During the twentieth century, the development of new markets for fish and seafood products in Asia, Europe and North America spurred the construction of fleets by nations desiring to become lead players in the new fishing order. Distant-water fishing nations (DWFN), in exchange for various forms of compensation, seek fisheries resources in the Exclusive Economic Zone (EEZs) of coastal states.

Beginning in the 1950s, coastal states challenged the open access of DWF fleets to their fisheries by extending their territorial sea claims from 3 to 12 miles or more, causing contentious conflicts and confrontation with DWF nations or their fleets. A global debate took place about the countries' rights and jurisdiction over the ocean, leading to the adoption of the 1982 United Nations Convention on the Law of the Sea (UNCLOS),[1] which gave coastal countries the responsibility to manage their natural ocean resources, including fisheries, within their 200-mile EEZs.

International Fisheries Access Agreements (IFAAs) were developed during the last thirty years and constitute the legal framework under which DWF activities occur. IFAAs are based on specific UNCLOS provisions which:

- ✓ confirm coastal countries' sovereignty over their respective EEZs;
- ✓ establish a regime where coastal countries may grant access to the surplus of the allowable catch of their EEZs to other countries; and
- ✓ encourage states to cooperate with each other in the conservation and management of living marine resources in the high seas through the establishment of regional fisheries management organizations (RFMOs).

IFAAs have been further shaped by technological advances in fishing gear, fuel-efficiency, at-sea processing and refrigeration/freezing, transshipment and expanded seafood supply chains, food services and markets. These innovations significantly changed the landscape of the fishing industry, enabling DWF vessels to access most of the ocean for extended periods of time and to catch more fish farther from home. Concurrently, the fish and seafood supply chains have become extensively globalized with the harvest being increasingly handled by more operators, including transshipment vessels, processors, distributors, food services and retailers.

The current legal framework for international fisheries access agreements comprises the "hard law" of binding international treaties, and the "soft law" of non-binding guidelines and codes of conduct (see Annex I).

In 2015, the UN member States adopted the 2030 Agenda for Sustainable Development (ASD) with 17 Sustainable Development

[1] United Nations Convention on the Law of the Sea, Montego Bay, 10 December 1982 (entry into force 16 November 1994), UN Treaty Series Vol. 1833, No. 31363.

Goals (SDGs) that provide a global framework to shape the development strategies of countries, international organizations, academia, industry, and civil society. SDG 14 seeks to conserve and sustainably use the oceans, seas and marine resources, confirming the prominence of ocean issues within the global agenda and placing ocean health at the heart of sustainable development. It has seven targets and three means of implementation dedicated to humanity's interactions with the ocean, out of which six have relevance to international fisheries access agreements.[2]

Today, IFAAs provide economic opportunities for DWF nations and companies able to fish further afield. However, they are regularly questioned as to whether their outcomes are beneficial for coastal states, especially developing countries, and for the sustainability of their fisheries and the livelihoods of the coastal communities that depend on them.

The world market of fisheries access arrangements and agreements involves many DWF countries and companies (resource seekers) negotiating modalities and conditions to access fisheries resources in the EEZs of coastal states (resource holders). Depending on the access modality, the arrangements have been categorized into first- or second-generation arrangements. In a first-generation arrangement, the resource seeker gains the right to fish in a coastal State EEZ by paying a resource rent (cash for access), while in a second-generation arrangement, DWF nations and firms gain access to a EEZ fishery by registering the vessels domestically or making a local investment that entitles them to a fishing license.

Regardless, the situation has been very dynamic during the last decades, with efforts to adapt to the diversity of players, their interests and capabilities and the types of fisheries concerned. As a result, fisheries access arrangements have evolved over time and in different regional contexts into a wide constellation of agreements reflecting the technical and institutional capacities and the leverage of the concerned parties to negotiate and implement the arrangements. Their negotiation and enforcement are influenced by various factors, including the economic situation of the coastal state and its institutional and technical capacity, geopolitics and conflicting regional and international state interests, and whether the arrangement relates to fish stock of an EEZ, to a transboundary area between various EEZs or to the high seas. The resulting typology of IFAAs covers the following types of agreements:

- ✓ **Access agreements between governments** whereby the coastal state negotiates directly with the DWF state/entity the conditions and modalities for granting access to its EEZ fisheries. The agreement can be bilateral (e.g. agreements between the EU and individual coastal states) or plurilateral (e.g. agreement between the USA and the Pacific Island countries [PICs]). The agreement will often set the compensation and its modalities, the number and type of DWF vessels, the target species, the duration and allowable quotas to be captured.
- ✓ **Access agreements between a coastal state and a private company or an industry association** often follow a pattern similar to that of bilateral agreements. They set out a specific timeframe in which a vessel is allowed to fish, the species of fish and the allowable quotas to be captured. In both cases, the foreign vessel retains the flag of its country of origin. Agreements of certain coastal states with Japan and Taiwan Province of China are an example of state-private access agreements.
- ✓ DWF vessels may also utilize **charter agreements** or **joint venture agreements** to access another country's fishery resources.

[2] See https://www.globalgoals.org/goals/14-life-below-water/.

A charter agreement is a lease agreement between a DWF vessel and a company based in the coastal state. The coastal state company essentially rents the foreign vessel, including renting its crew to carry out fishing operations. Often the flag of the foreign vessel remains despite being rented by the coastal country company.

✓ In a **joint venture agreement**, there is a partnership agreement between the coastal country company and the DWF company – often with the coastal country company owning at least 51% of the venture.

Whether a charter or joint venture agreement, the expectation is that there will be significant knowledge transfer from the DWF company to the coastal state company, especially since both charter and joint venture agreements often require a proportion of the crew to be nationals of the coastal state.

Compensation for access to fisheries resources can be monetary, non-monetary or a combination of both. Non-monetary compensation can take diverse forms, including technical assistance and training, building infrastructure, the provision of fishing vessels, patrol boats, monitoring, control and surveillance (MCS) equipment, aid to the small scale or industrial fishing sector, access to markets and concessions in other sectors of commercial relations.

In theory, market conditions determine the monetary value that the coastal state can negotiate against granting access to its EEZ resources. Furthermore, the form of compensation should consider the ecological impact of the agreement on the EEZ fisheries resources and its ecosystem services. The resource user should compensate for any negative ecological impact and the costs of regeneration of these ecosystem services, in line with international instruments that promote the eco-system approach to fisheries management[3, 4].

In addition to the compensation fee, IFAAs can generate significant employment and value addition in both the DWF nations and the resource owners, in the areas of fishing, processing, shipbuilding, supplies, repair and maintenance, refueling and transshipment. In several countries in Europe (e.g. Spain, France, Italy) or Asia (e.g. China, Japan), Africa (e.g. Morocco, Cote d'Ivoire, Mozambique), Indian Ocean (e.g. Mauritius, Madagascar) or the Pacific Ocean (e.g. Fiji, Solomon Islands), significant jobs and value addition are associated with fisheries agreements, and the political consideration to maintain these jobs is taken into consideration when negotiating agreements.

Information and data to study IFAAs and the global make-up and operations of DWF fleets are not easily accessible. Many agreements do not disclose information on the conditions and modalities of their negotiation and enforcement methods. Independent alternative tracking methods have been developed to address this issue, for example to identify and monitor DWF vessels, ocean areas harvested and related catch estimates. These methods have been elaborated further using different catch reconstruction approaches, technologies and other complex modeling systems.

Recent technological developments in machine learning and satellite data have significantly improved the ability to examine and monitor global fishing and fisheries and the accuracy of estimating fishing efforts across the globe at the level of individual vessels. New technologies, using automatic identification systems (AIS) and vessel monitoring systems (VMS) are employed to identify when and where a fishing vessel is operating, what type of fishing gear is likely being used, and to estimate the fishing effort in near real-time. These new tools and research methods expand the

[3] https://www.fao.org/fishery/en/eaf-net/about/what-is-eaf.
[4] https://www.fao.org/3/I0151E/i0151e.pdf.

ability of fisheries experts, managers, and enforcement officials to understand better and to monitor fishing activities offshore, as well as to assess the economic and ecological implications of these activities.

Using these technologies, studies have mapped the top ten DWF nations/fleets in the world and the top 20 countries where they operate. The mapping shows that the top five DWF fleets represent 89% of the DWF fleets' operations with the fleets of China and Taiwan Province of China representing nearly 60% of all global DWF effort, and Japan, South Korea, and Spain each representing about 10% of the DWF fishing effort. These top 5 DWF nations target four main regions of the ocean: the Pacific, West Africa, East Africa, and South America. They primarily use four types of fishing gear: longlines, squid jigging, trawling, and purse seining. The length of these vessels usually ranges from 20 to 90 meters, and sometimes they can be even longer. Trawlers from China, Spain, and South Korea operate in the Western coast of Africa, in particular Guinea Bissau, Mauritania, Angola, the Republic of Congo, and Sierra Leone. Squid jiggers primarily target South America, including the Falkland Islands (Malvinas), Argentina, Peru, Uruguay, and Chile, and to a lesser extent the Republic of the Congo.

A recent study of the current major marine fisheries access arrangements highlights the dynamic pattern of access as resource-owning and resource-seeking States and firms change and are constantly experimenting how the design of access arrangements can best achieve their dynamic goals and objectives. While efforts toward "best practices" in access agreements are vital, the nature and consequences of IFAAs are ultimately a case-specific empirical matter. Moreover, the range of rents that is extracted from firms is contingent upon their operational and regulatory structures, as well as their positioning within the global value chains (GVC).

While coastal states and DWF nations and firms remain the negotiating parties of IFAAs, civil society organisations are increasingly influencing the debate surrounding access and the terms of access through lobbying and direct action. These organisations range from small-scale, locally focused fishers' groups to some of the largest international environmental NGOs.

There is a widespread tendency among coastal states to boost domestic returns from fisheries access arrangements. These returns range from geopolitical influence to licensing fees, job creation, and value addition, each of which demands a particular focus. Ideally, industrial upgrading policy should be favored over the maximization of rent capture in the form of government revenue, for instance through the ownership of vessels and/or processing units.

Past experiences of DWF activities offer a great variety of situations that range from failed and unfair IFAAs to cases of sensible and successful cooperation. Examples of success stories include:

- ✓ The sustainable harnessing of deep-water shrimp in Senegal by vessels, with a major involvement of international investors;
- ✓ The Namibian fisheries management policy, including the management of the DWF fleet;
- ✓ The Seychelles fisheries management policy, including the management of the DWF fleet and in-country processing and value addition;
- ✓ The science-based management of offshore fisheries in the Pacific Islands, including:
  - the joint harmonized minimum terms and conditions (HMTCs) for foreign fishing vessel access; and
  - the vessel day scheme (VDS) for jointly managing the purse-seine fishery targeting skipjack tuna within the combined EEZs of the Pacific countries, parties to the Nauru Agreement Concerning

Cooperation in the Management of Fisheries of Common Stocks (Nauru, 1982) (Nauru Agreement) and subsequent arrangements based on the Nauru Agreement.

The current trend of DWF fleet deployment in various regions in the world is likely to continue in the future, amid an increasing global fish demand. However, there are seven core areas that need to be addressed to ensure that the next generation of IFAAs are equitable and support the development of global fisheries that are ecologically, socially and economically sustainable:

Fisheries access agreements respecting conservation and management measures: Despite substantive improvements in many countries, several developing economies still lack the capacity and resources to manage their EEZ fisheries effectively and to assess the appropriate basis on which to negotiate sound, fair and unharmful fishing agreements. **Negotiating access to its EEZ fisheries should be regarded by the coastal State as an integral part of its fishery management regime. As such, access should be granted only based on clear evidence that the resource is underutilized and that a surplus of allowable catch, based on data obtained through scientific methods, can safely be rented.**

In addition, decisions on access provided to DWF fleets must be made considering their impacts on national fleets and artisanal fishers. When negotiating a fisheries access agreement, the coastal State should take into account the following:

- ✓ The fisheries access zones should be areas in which the fish stock components are not the primary targets of national fleets;
- ✓ DWF fleets should not be allowed to fish for offshore components of stocks on which inshore artisanal fishers depend for a livelihood;
- ✓ Emphasis should be given to deepwater species, and species for which local markets do not exist or which require special fishing techniques or gear that are not locally available;
- ✓ Quantitative, qualitative and gender disaggregated data should be compiled on the socio-economic aspects of the fisheries, including employment generated, the level and repartition of income and value addition along the fisheries value chains, and the impact on the national food security and nutrition.

Transparency and equity of fisheries access agreements: International fisheries access arrangements are regularly criticized for their lack of transparency regarding access conditions, DWF fleet ownership and operations, onboard labor practices, transshipment, and catch and landing data. The outcomes and benefits of IFAAs for coastal states, their local fisheries and the livelihoods of the communities that depend on them have often not been demonstrated.

Several studies report inherent imbalances in the negotiating process as developing coastal states often have insufficient or no information on the status of the target species, the current level of exploitation and market information. These studies highlight that several DWF nations use their political or economic influence to secure favorable terms and fishing opportunities for their fleets using for example market access restrictions or development assistance, pushing resource management to the periphery, and focusing on economic considerations to the detriment of the long-term health and sustainability of the fisheries.

Both DWF nations and coastal states are equally responsible for ensuring proper fisheries management and enforcement of conservation measures. **The priority of IFAAs should be to build the capacity and infrastructure of the coastal states to assume their conservation and management roles effectively. Likewise, DWF fleets should assume their proportionate share of the environmental and social costs of sustainable fishing, and support**

Coastal States should grant EEZ fisheries access only if scientific evidence shows an underutilized surplus.

National fisheries policies should mandate publishing agreements, vessel and catch data, and socioeconomic information for transparency.

The priority of IFAAs should be to build coastal state capacity, ensure DWF fleets share costs, support research, and protect local fishers.

scientific research on the status of stocks by collecting and reporting in an accurate and timely manner data on catch and effort. The interests of the coastal State industry, including small scale fishers, should be protected.

Coastal states and DWF nations should legally embed transparency on the IFAAs in their national fisheries policies. They should request the systematic publication of such agreements, subject to confidentiality requirements, as well as information on DWF vessels, catch and socio-economic data, joint ventures and chartering arrangements.

Coastal states should make the publication of foreign vessel registries, including the accompanying vessel ownership and company information, a requirement to gain access to their EEZs. The Fisheries Transparency Initiative (FiTI) – a global initiative which seeks to improve fisheries transparency at the national level – provides a solid foundation for countries to improve the transparency of their fishing industry. As a new program with voluntary membership, FiTI should be supported and monitored to assess its impact to improve transparency, including in relation to DWF fleet.

Combat IUU fishing by more transparency, ratification of agreements, vessel compliance, and collaboration enforcement.

Fisheries subsidies, overfishing and overcapacity: Several studies report that many countries subsidize the fishing activities of their DWF fleet, often distorting the true costs of fishing operations. Experts have argued that subsidies which enhance fishing capacity contribute to overfishing, particularly in coastal countries with limited capacity to develop, monitor and enforce fisheries management regimes. Considered alongside the well-documented increase in the number of overfished stocks, these trends warrant an urgent reduction in fishing effort if the current declines in fisheries productivity are to be reversed.

DWF states should urgently end subsidies considered harmful to the health of fisheries resources. Their removal will level the playing field by ending harmful economic subsidies that artificially increase the value of fishing, incentivize overfishing, and undermine long term fisheries conservation and management measures.

After more than 20 years of negotiations, WTO members finally reached an agreement on fisheries subsidies at the twelfth WTO Ministerial Conference in 2022. The Agreement represents a landmark treaty that seeks to address the depletion of marine resources caused by overfishing, overcapacity and Illegal, Unreported and Unregulated (IUU) fishing. It seeks to curb harmful subsidies globally and establish vital safeguards where fisheries regulations or management measures do not exist and/or are ineffective. Members agreed to continue negotiations to achieve, within four years of the entry into force of the Agreement, a comprehensive agreement on fisheries subsidies, including further disciplines on subsidies that contribute to overcapacity and overfishing. If they fail to do so, the agreement will be considered immediately terminated, unless otherwise decided by the General Council.

Combatting unsustainable and illicit practices and trade in DWF: Several studies report that certain DWF fleet operating under legal fishing agreements have resorted to unsustainable and illicit practices to extract most economic benefits by circumventing rules wherever enforcement and oversight were deficient, at the expense of sustainability. These fleet resort to practices, such as the use of Flags of Convenience (FoC), transshipment, under-reporting and illegal fishing in global EEZs and high sea fisheries, perpetuated through unequitable and opaque IFAAs, providing offenders with an escape route to avoid detection and sanctions. The use of FoC or “flag-hopping” by fishing vessels is considered to exacerbate the opacity of the fishing sector, hindering efforts to identify and sanction the offenders and main beneficiaries of illicit practices.

"Flag-hopping" allows vessels to change their identity regularly, and the use of FoCs frustrates the efforts of flag states that enforce policies to make their fleets compliant with rules for sustainable, legal and ethical fisheries.

Transshipment is a widely practiced activity in various fisheries around the world, utilized to consolidate fuel costs within a fleet and move products to market more quickly, thus reducing fishing operating costs and maximizing fishing opportunities. The practice, particularly at-sea transshipment, has become intensely debated as being associated with the risk of IUU fish entering the supply chain and facilitating criminal activities and illegal labor practices in the fisheries sector. Policies on transshipment vary by coastal state, flag state, and region. It should be authorized only by countries and RFMOs with good fisheries management schemes that enable transshipment activities to be closely regulated and monitored, with independent verification of catch and transshipment, capacity to monitor and enforce conservation measures, as well as the opportunity to investigate transnational criminal activities.

DWF countries have an obligation to ensure that their flagged vessels do not engage in illicit practices such as labor abuses and IUU fishing. Seafood traceability across the supply chain, including transshipment and processing, should be mandated as a requirement for market access to combat IUU fishing and seafood fraud and help sustainably manage fisheries.

Substantially improved transparency and accountability, including comprehensive accountability along the industry supply chain, are urgently needed. Equally urgent is the need to ratify and enforce the various existing international agreements to address fish laundering via transshipment operations, granting fishing access permission only to vessels that are insured by marine insurance companies that exclude any IUU-listed vessel through transparent due diligence, and stepping up collaborative enforcement activities across all areas.

Policy coherence across domestic and distant waters: There is a need for policy coherence to address the fundamental requirement for countries to design effective policies to achieve sustainable development and avoid impacts that adversely affect the development prospects of other countries. The fisheries policy of DWF nations, whether for domestic or distant waters, should be aligned with international law, in particular the necessity to ensure, through proper conservation and management measures, that living resources, whether in the national or foreign EEZs or high seas, are not endangered by over-exploitation, and that only surplus EEZ allowable catches can be considered for harvesting under IFAAs.

DWF nations' policies should guarantee coherence between their actions in domestic and distant waters, eliminate subsidies considered harmful to sustainable fisheries and engage in fair, equitable and transparent IFAAs. Resource holding states should do far more to optimize their income and benefits from such agreements, by investing the revenue in effective marine management and enforcement as a priority.

DWF nations and coastal states should ensure that there is a clear de-coupling between the compensation fees for access to fisheries and the development aid provided to coastal states in the form of the provision of equipment, infrastructure or other development projects. The compensation fees should be spent as a priority to build capacity and infrastructure to support fisheries management and the livelihoods of coastal communities. Other forms of aid should be tailored to local needs and promote sustainable development, including in fisheries. Coastal states should be accountable for appropriate fisheries management, monitored by results-based indicators, such as the number of stocks assessed, number of enforcement activities carried out and their outcomes, rather than the number and value of projects deployed.

Fisheries access agreements and the 2030 Agenda for Sustainable Development (ASD): DWF and coastal states should improve the alignment and coherence between their policy framework for DWF management and the 2030 ASD. This should start by ensuring that coastal states upgrade their fisheries policy and devote adequate resources from the compensation fees to its effective implementation.

DWF nations should ensure that good fisheries management practices are implemented equally for domestic and DWF fleets and aligned with SDGs, their targets and indicators. Both parties to the IFAAs should report regularly and in a transparent manner relevant data such as catches, benefiting companies, as well as the amount and use of the compensation funds. Most importantly, both parties should assess and report how the agreement specifically supports fisheries sustainability in coastal countries and the socio-economic development of the coastal communities impacted by the fishing agreements. More multidisciplinary research should be devoted to this neglected area, with the aim to identify inherent conflicts between domestic and DW fisheries policy frameworks, and effective ways and means to resolve them.

Building institutional and technical capacity: Several coastal countries granting access to DWF fleets still lack capacity to negotiate fair agreements and to monitor and protect their EEZs from unfair and illicit practices, losing potential revenue that could be dedicated to fisheries management and related local needs. Engaging in negotiating IFAAs with inadequate knowledge and skills impedes developing coastal states from achieving rewarding outcomes.

Coastal states should, as a priority, devote the revenue derived from IFAAs to fisheries research, management and enforcement. This includes dedicating sufficient resources to develop institutional and legal frameworks, train personnel in fisheries research, negotiation skills, monitoring domestic and DWF vessels' operations in their EEZs, as well as increasing observer coverage on board vessels. Elevating the status of fisheries researchers, enforcement and monitoring officers and providing professional opportunities for growth will help retain qualified personnel.

Negotiating and implementing robust and equitable IFAAs require a multidisciplinary team covering diverse areas of expertise in negotiation, international law, policy, research, management, enforcement, socioeconomics, and communication. In addition, revenue from IFAAs should be used to strengthen productive capacities and help upgrade domestic fisheries industries, and promote value addition, so that coastal states can extract the maximum wealth from their fisheries resources.

Chapter I

Introduction

Distant water fishing (DWF) vessels of several nations have for centuries travelled vast distances, roaming the ocean to harvest its fisheries. As early as 1575, vessels from France, Portugal and Great Britain were fishing for cod in the productive fishing grounds of North America (Bonfil et al., 1998). In 1609, the Dutch international lawyer Hugo Grotius published the book *Mare Liberum* (or *The Freedom of the Seas*),[5] stating that the sea was free to all, whether for navigation or for fisheries.

During the twentieth century, the size and catching capacity of DWF fleets had grown significantly, driving a migration of fishing efforts to search for faraway productive waters. Concurrently, the development of new markets for fish and seafood products in Asia, Europe and North America spurred the construction of burgeoning fleets by nations desiring to become lead players in the new fishing order ensuring consistent market supplies and benefits.

Following the Second World War, the contours of a new fishing order started to emerge. As DWF vessels became more prevalent, several coastal countries challenged the freedom of the seas and the open access by DWF fleets to their fisheries. They extended their three-mile territorial sea claims to 12 miles causing contentious conflicts and confrontation between DWF countries or their fleets and coastal states. Iceland led the way by extending its EEZ to 4 miles in 1952, 12 miles in 1958, 50 miles in 1972, and finally 200 miles in 1975 (Bofil et al., 1998).

As a result of these developments, a global debate took place about the countries' rights and jurisdiction over the ocean, which ultimately led to the adoption of the 1982 United Nations Convention on the Law of the Sea (UNCLOS), also known as the "constitution of the oceans". UNCLOS, which entered into force in 1994, stipulates that coastal countries are responsible for the management of their natural ocean resources, including fisheries, within their 200-mile EEZs. UNCLOS provides modalities for coastal countries to grant access to untapped and excess fishing capacity of their EEZ to other countries.

Although EEZs cover only 35% of the total area of the seas, they contain 90% of the world's harvested fish stocks. Beyond the EEZs, UNCLOS also governs the high seas, known otherwise as the Areas Beyond National Jurisdiction (ABNJ). UNCLOS encourages states to cooperate with each other in the conservation and management of living marine resources in the high seas through the establishment of regional fisheries management organizations (RFMOs).

Starting in the seventies, DWF fleets suddenly saw their free access to oceans and traditional fishing grounds shrink measurably. They pressured their governments to enter international fisheries access arrangements to gain access to fisheries resources in other coastal countries' EEZs and in high seas now covered by RFMOs.

These developments took place amid technological advances in fishing gears, more fuel-efficient and longer-ranging fishing vessels, improved safety at sea, refrigeration, at-sea processing and transshipment and expanded seafood supply chains, food services and markets. These innovations significantly changed the landscape of the fishing industry, enabling DWF vessels to access many parts of the ocean for extended periods of time and to catch more fish farther from home. Concurrently, the fish and seafood supply chains have become extensively globalized with the harvest being increasingly handled by more operators, including transshipment vessels, processors, distributors and retailers.[6]

[5] https://www.jstor.org/stable/26211640.

[6] Bofil et al., 1988; Martin et al., 2001, Mwikya, 2006.

For many years now, IFAAs, which provide economic opportunities for DWF states and companies able to fish further afield, have been regularly questioned as to whether their outcomes are beneficial for coastal states, the sustainability of their fisheries and the livelihoods of the coastal communities that depend on them. Several reports argue that most IFAAs have been unfair, driven by exporting excess fishing capacity of the countries seeking access, deployed sometimes with government subsidies that enhance overcapacity, overfishing and fisheries depletion in several areas of the ocean.[7] To some countries, however, IFAAs provide an important source of government finances.

In addition, IFAAs often do not disclose information regarding DWF fleets, beneficiaries of the agreements, vessel ownership and vessel operations, onboard labor practices, means of transshipment and delivery to markets, as well as catch and landing data of DWF fleets. This lack of transparency is accompanied by a dearth of research and data regarding the scale of the DWF industry, the motivations of its proprietors, and the impact these fishing practices have on coastal countries and marine fisheries.[8]

It has been reported that on several occasions, DWF nations used their clout to secure favorable terms and fishing opportunities for their fleets using market access restrictions or by offering fisheries or non-fisheries-related infrastructure or development projects to coastal countries. The financial assistance provided to their DWF vessels has often been considered a form of subsidy that has maintained many fleets at levels beyond biological or economic sustainability and undermined the management objectives of RFMO's conventions by challenging the allocation of dwindling high seas fisheries (Vatsov, 2019; Yozell and Shaver, 2019; FAO, 2022).

Overall, political influence and bargaining strategies appear to often have pushed resource management to the periphery, focusing on economic revenue, to the detriment of the long-term health and sustainability of the resources themselves.[9] Lack of transparency surrounding the compensation fees from IFAAs and their use has led to corruption scandals when the funds have been diverted by decision makers. Allegedly, remuneration based on IFAAs with DWF vessels is often unfair and many times not well invested in rebuilding fisheries, their management and coastal communities, leaving local fishers "both without fish and without the dollars".[10]

Likewise, the opaque nature of DWF activities has on several occasions been linked to illicit activities likely contributing to IUU fishing. Many DWF vessels are more likely to engage in coastal countries where governance enforcement capacity is low, increasing the risk that a DWF vessel will engage in IUU fishing in the EEZ of these nations.[11] Others register as FoC vessels in countries with weak or no oversight of the fishing operations and limited connection to the vessel.

Despite notable improvements and equitable fisheries access arrangement, there are still concerns with regard to fisheries resources exploitation by DWF nations in developing regions. Research carried out over time has improved our understanding of the DWF operations worldwide, mapping the different types of access arrangements, the main resource seeking DWF countries and their fleets in the world, where and how they operate, the main resource holding states, and their respective

7 Belhabib et al., 2015; Tickler et al., 2018; Gutierrez et al., 2020.
8 Bofil et al., 1998; OECD, 2013; Yozell and Shaver, 2019; FAO, 2022.
9 Bofil et al., 1998; OECD, 2013; Yozell and Shaver, 2019.
10 Yozell and Shaver, 2019.
11 Stabler et al., 2022.

policies and strategies for engaging in fisheries access arrangements.[12]

Overall, each IFAA is unique, and its final outcome varies from case to case. While some coastal nations are better prepared and capacitated for dealing with the challenge posed by negotiating and granting access to DWF fleets, for many others, this is unfortunately far from being the case. The success or failure of an IFAA depends not only on the type of fisheries access scheme, but also the capacity to manage the fishery and monitor and enforce compliance with regulations. Usually, these capabilities are intrinsically linked with the level of technical, economic, and social development of the coastal nation, giving DWF nations still an even more important role in global fisheries management regardless of whether they are seeking their own benefit or a more equitable arrangement.

There are many avenues available for successful and efficient fisheries access arrangements, based on positive interactions between DWF and coastal nations. Experiences of DWF activities offer a wide array of situations that range from unfair access arrangements to cases of sensible and successful cooperation, with equitable benefits shared among all parties. Technological improvements such as vessel tracking systems and other monitoring instruments and capabilities have significantly improved the ability to better monitor fishing activities and fishing fleet deployment worldwide and to enhance oversight of DWF fleets.

The challenge for coastal nations is to build effective capacity for negotiating with DWF nations and concluding IFAAs that are economically equitable, and socially and ecologically beneficial. This requires a significant shift towards improved fisheries management, improved accountability for responsibilities of states and fleets and overall transparency regarding the negotiation of these agreements, their implementation and assessment throughout the seafood industry and supply chain.

To assist in this effort, this report provides a comparative analysis of IFAAs and related research with a view to identifying gaps and challenges, and synthetizing experiences, success stories and best practices. As such, the publication complements UNCTAD's ongoing work and earlier studies on sustainably harnessing the potential of fisheries and aquaculture resources for socioeconomic development in countries that have rich marine and freshwater resources. Based on the analysis, the report provides recommendations on why, when and how best to use IFAAs to secure income, improve global fisheries sustainability, and support value addition and exports, with a focus on the livelihoods of coastal fishing communities and their access to resources, services and markets. In doing so, the report draws lessons for SIDS and LDC nations where UNCTAD is implementing fisheries development projects, to guide policies on the relevance and opportunities for negotiating international fisheries access arrangements.

[12] Bofil, 1998; Munro et al., 1998; Mwikya, 2006; Yozell and Shaver, 2019; FAO, 2022; Stabler et al., 2022.

Chapter II

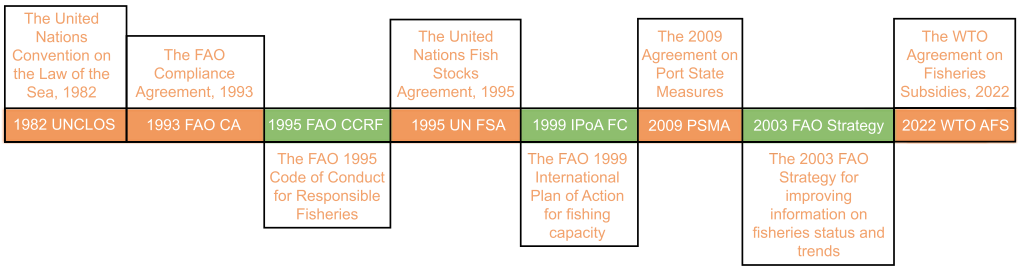
The legal framework for fisheries access arrangements

UN Convention on the Law of the Sea (UNCLOS)

The current legal framework for international fisheries utilization and conservation started to develop during the second half of the twentieth century as several coastal countries challenged the previous principles of freedom of the seas and open access by DWF fleets to their fisheries resources. This framework comprises the "hard law" of binding international treaties, and the "soft law" of non-binding guidelines and codes of conduct (figure 1; Annex I).

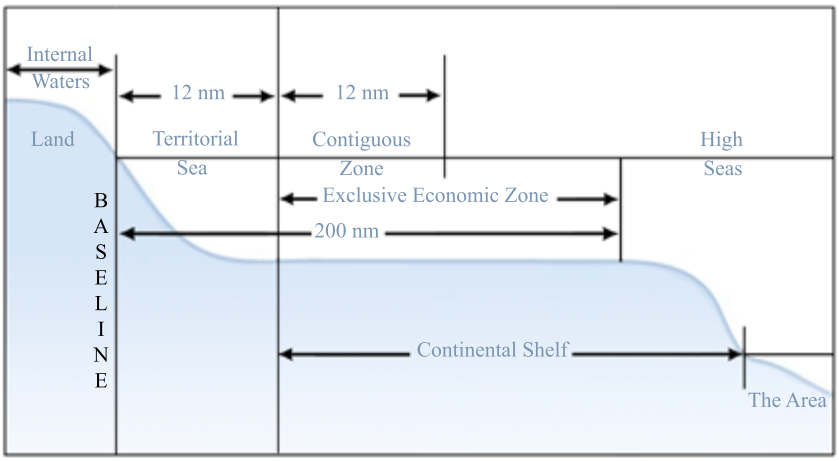
Effective fisheries conservation and management are highly prominent in UNCLOS provisions. These provisions address specifically rational resource management regimes, cooperation, coordination, and dispute settlement. UNCLOS addresses fisheries management regimes by determining the maritime zones in which a coastal state may control fishing activities and its role and responsibility in those zones. In this regard, UNCLOS divides the oceans into five zones: 1) the territorial sea; 2) the contiguous zone; 3) the exclusive economic zone; 4) the continental shelf; and 5) the high seas (Figure 2). UNCLOS also addresses the sovereignty of archipelagic states over their archipelagic waters.[13]

Figure 1.
Main international instruments of relevance to fisheries access agreements



Source: UNCTAD

Figure 2.
Maritime zones defined by the 1982 United Nations Convention on the Law of the Sea



[13] An archipelagic state is an island state that consists of an archipelago, which is a chain, cluster, or collection of islands. An archipelagic State may draw lines around the outermost points of an archipelago, known as archipelagic baselines, from which its five maritime zones are delineated.

UNCLOS grants coastal states sovereign rights over natural resources and scientific research within their EEZs

A significant achievement of the Convention is the creation of the EEZ, which extends from the coastal state baseline for up to 200 nautical miles seaward. UNCLOS grants coastal states the sovereign rights of exploration and exploitation of natural resources, as well as jurisdiction over carrying out scientific research and the protection and preservation of the marine environment within their EEZs. Coastal states shall determine allowable catches of living resources in the EEZ using the best scientific evidence available regarding the size and health of fish populations, ensuring that allowable catches are designed to restore and maintain populations of harvested species at levels which can produce the maximum sustainable yield.

The Convention requires significant cooperation between coastal states and other nations, including by granting other States the right to fish in the coastal states' EEZs when the latter cannot harvest the entire allowable catch themselves. On the other hand, the DWF nation must allow coastal state trainees and observers on board its fishing vessels, permitting the coastal nation to monitor the fishing activities, acquire new technology and techniques and eventually take advantage of the maximum allowable harvest. Both coastal states and DWF nations must cooperate effectively to achieve the goals of conservation and maximum utilization of global fisheries.

Beyond the EEZ, UNCLOS provides that the high seas are open to all States. Whether coastal or land-locked, all states have the freedom to fish on the high seas. They must do so with due regard for the interests of other States in their exercise of the freedom of the high seas, and also with due regard for the rights under UNCLOS with respect to activities in the area, including by taking measures necessary for the conservation of the living resources of the high seas.

UNCLOS allows every nation to sail ships flying their flags on the high seas but requires every nation to fix the conditions for granting its nationality to ships, for the registration of ships and for the right to fly its flag. In addition, there must be a genuine link between the State and the ship. States have jurisdiction over ships flying their flags and must control their activities. In particular, nations are responsible for making sure that their ships adhere to fisheries management and conservation requirements on the high seas.

Other UNCLOS provisions of relevance address cooperation and coordination of conservation efforts among nations, particularly in relation to i) fish stocks that exist between two EEZs; ii) between a coastal nation's EEZ and the high sea; and iii) fishing in the high sea. Depending on the case, these provisions call on the concerned states to seek agreement upon the measures necessary for the conservation and management of these stocks. UNCLOS also calls upon the coastal States and other States fishing highly migratory species to cooperate in ensuring conservation and promoting the optimum utilization of those resources. Where necessary, nations are required to cooperate to establish subregional or regional fisheries organizations dedicated to the conservation and management of living resources and to participate therein. They should share scientific data on fisheries to support drawing up conservation and management plans for harvesting stocks at levels that will produce the maximum sustainable yield.

UNCLOS describes three basic ways to resolve disputes between nations: i) by encouraging peaceful settlement of disputes; ii) by providing for non-binding methods of fact-finding and conciliation (or transfer of the dispute to another dispute settlement regime); and iii) by establishing a compulsory, binding dispute settlement process. In the latter case, States can choose the International Tribunal for the Law of the Sea, the International Court of Justice, an arbitral tribunal, or a special arbitral tribunal. Courts or tribunals deciding disputes must apply UNCLOS

provisions or other rules of international law compatible with the Convention. Annexes of UNCLOS include detailed provisions on how to engage in these mechanisms.

Other international instruments of relevance

As UNCLOS was being adopted with more coastal states claiming their rights and jurisdiction over fisheries in their EEZs, large DWF fleets were displaced from some of their traditional fishing grounds and the pressure to fish in the high seas grew rapidly and without sufficient control. Subsequently, several issues of fishing in the high seas emerged that were previously not perceived as a major problem requiring priority attention. Inadequate management and overfishing soon became concerns in the high seas, requiring adequate control of fishing fleets operating in the area and protection of the sustainability of marine fishery resources.

During the 1992 United Nations Conference on Environment and Development (UNCED), participants expressed serious concerns about the state of world fisheries, in particular the mismanagement of straddling and highly migratory fish stocks in the high seas, and called for an intergovernmental conference under the auspices of the UN to promote further effective implementation of UNCLOS.

Against this background, the international community moved into negotiating three international instruments to i) reinforce the effectiveness of international fisheries conservation and management measures by redefining and enhancing the concept of flag state responsibility for the activities of fishing vessels flying its flag; ii) deal specifically with straddling fish stocks and highly migratory fish stocks; and iii) develop a code of conduct for responsible fisheries.

FAO Compliance Agreement

The Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement) was adopted by the FAO Conference in 1993 and entered into force in 2003. It was initially conceived as an instrument to close a legal loophole whereby fishing vessels could change their registration ("re-flag") for a state unable or unwilling to enforce its controls on-board vessels.

The purpose of the Compliance Agreement is to reinforce the effectiveness of international fisheries conservation and management measures by redefining and reinforcing the concept of flag state responsibility for the activities of fishing vessels flying their flag on the high seas. In so doing, it aims to improve the regulation of fishing vessels on the high seas by enhancing the role of flag states and by ensuring that flag states strengthen the control over their vessels to ensure compliance with international conservation and management measures.

Parties to the Agreement must ensure that they maintain an authorization and recording system for high seas fishing vessels and that these vessels do not undermine international conservation and management measures. The Agreement aims to deter the practice of 're-flagging' vessels with the flags of states that are unable or unwilling to enforce such measures. It notes the special responsibility of flag states to ensure that none of their vessels are fishing on the high seas unless authorised, and that they can effectively exercise their responsibilities to ensure their vessels comply with international conservation measures.

UN Fish Stocks Agreement

The Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the UN Fish Stocks Agreement) was adopted in 1995 and entered into force in 2001.

Straddling stocks are fish species that move through or exist in more than one EEZ and in the adjacent high sea. Highly migratory stocks are fish species that regularly travel long distances across international waters. The term usually refers to tuna and tuna-like species.

The UN Fish Stocks Agreement sets out principles for the conservation and management of those fish stocks and establishes that such management must be based on the precautionary approach and the best available scientific information. The Agreement elaborates that states should cooperate to ensure conservation and promote the objective of the optimum utilization of fisheries resources both within and beyond the EEZ.

The Agreement establishes international standards for the conservation and management of straddling fish stocks and highly migratory fish stocks, ensuring that measures taken for the conservation and management of those stocks in areas under national jurisdiction and in the adjacent high seas are compatible and coherent and that there are effective mechanisms for compliance and enforcement of those measures on the high seas, while recognizing the special requirements of developing states in relation to conservation and management as well as the development and participation in fisheries for the two types of stocks.

The Agreement also spells out the duties of flag states, including those related to registration and records of vessels, authorizations, MCS and compliance and enforcement. Cooperation in international, regional and sub-regional enforcement is also addressed, along with boarding and inspection procedures and port state measures.

FAO Code of Conduct for Responsible Fisheries

Adopted in 1995 by the FAO Conference, the Code of Conduct for Responsible Fisheries (the Code) contains a comprehensive set of guiding principles building on the understanding that states and users of aquatic living resources should conserve aquatic ecosystems and that the right to fish carries with it the obligation to do so in a responsible and sustainable manner. The purpose of the Code is to set international standards for responsible practices with a view to ensuring the effective conservation, management and development of living aquatic resources, with due respect for the ecosystem and biodiversity. These standards may be implemented, as appropriate, at the national, subregional and regional levels and in promoting more responsible behavior in the fisheries sector.

The Code is to be interpreted and applied in conformity with the relevant rules of international law as reflected in UNCLOS. It was also formulated in line with the UN Fish Stocks Agreement. The FAO Compliance Agreement forms an integral part of the Code.

The Code promotes fisheries management that, through appropriate policy, legal, and institutional frameworks, ensures the long-term conservation and sustainable use of fisheries resources at levels which support the objective of their optimum utilization and maintain their availability for present and future generations. The Code's management measures concern all fisheries, including those within areas under national jurisdiction, transboundary, straddling, highly migratory and high seas fish stocks. The Code calls on states to cooperate to ensure effective conservation and management of the fisheries resources. This should be achieved, where appropriate, through the establishment of a bilateral, subregional or regional fisheries organization or arrangement. Conservation and management measures, whether at local, national, sub-regional or regional levels, should be based on the best scientific evidence available.

The Code defines provisions regarding responsible fishing operations which need to be conducted and controlled to ensure long-term sustainability of living marine resources so that these can make a substantial contribution to food and nutrition security, strengthen employment opportunities and support human well-being while protecting the environment. It defines the duties of all states and the necessity to ensure that fishing operations are conducted in total respect of international requirements for safety at sea, protection of the marine environment and prevention of damage to or loss of fishing gear. Requirements address also the selectivity of fishing gear, methods and practices, energy saving, harbors and landing sites, artificial reefs and fish aggregating devices.

The Code defines fundamental requirements for data collection on fishing activities and the sound scientific monitoring of fisheries resources and their environment. It calls on states to ensure that appropriate research is conducted in all aspects of fisheries, including biology, ecology, technology, environmental science, economics, social science, aquaculture and nutritional science. States should ensure the availability of research facilities and provide appropriate training, staffing and institution building to conduct the research, taking into account the special needs of developing countries.

Instruments to combat Illegal, Unregulated and Unreported fishing

IUU fishing comprises a wide range of fishing activities carried out in contravention of national or international law for fisheries management.[14] Illegal fishing refers to activities i) conducted by national or foreign vessels in waters under the jurisdiction of a state, without the permission of that state, or in contravention of its laws and regulations; ii) conducted by vessels flying the flag of states that are parties to a relevant RFMO but operate in contravention of the conservation and management measures adopted by that RFMO and by which the states are bound, or relevant provisions of the applicable international law; or iii) in violation of national laws or international obligations, including those undertaken by cooperating states to a relevant RFMO.

Unreported fishing refers to activities which i) have not been reported, or have been misreported, to the relevant national authority, in contravention of national laws and regulations; or ii) are undertaken in the area of competence of a relevant RFMO which have not been reported or have been misreported, in contravention of the reporting procedures of that RFMO.

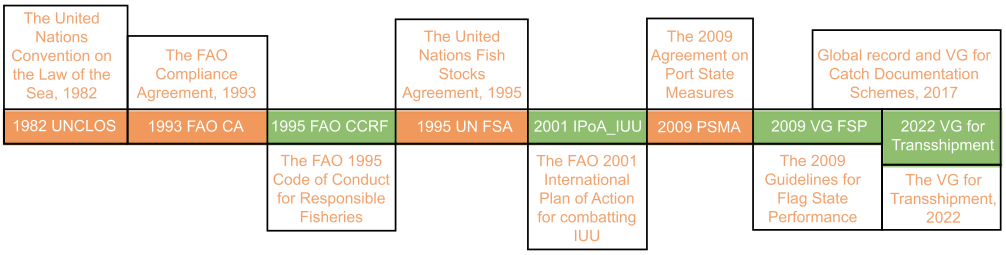
Unregulated fishing refers to activities carried out i) in the area of application of a RFMO by vessels without nationality, or by those flying the flag of a state not party to that RFMO, or by a vessel, in a manner that is not consistent with or contravenes the conservation and management measures of that RFMO; or ii) in areas or for fish stocks in relation to which there are no applicable conservation or management measures and where such fishing activities are conducted in a manner inconsistent with state responsibilities for the conservation of living marine resources under international law.

A framework of binding and voluntary international instruments[15] has been developed over the last decades, elaborating duties and responsibilities of flag, port, coastal and market states, which if fulfilled can lead to preventing, deterring, and eliminating IUU fishing (figure 3).

[14] https://www.fao.org/iuu-fishing/en/.

[15] https://www.fao.org/iuu-fishing/international-framework/en/.

Figure 3.
International regulatory framework for combatting Illegal, Unregulated and Unreported (IUU) fishing



Source: UNCTAD

Adopted by FAO in 2001, the International Plan of Action IPOA-IUU represents a comprehensive toolbox, offering a range of tools that are available for use in different situations to combat IUU fishing. It covers flag, port, coastal and market state responsibilities, envisages broad participation and coordination among states, as well as representatives from industry, fishing communities and non-governmental organisations (NGOs) and the use of a comprehensive and integrated approach, so as to address all impacts of IUU fishing. It calls upon states to develop and adopt their own national plans of action (NPOAs), addressing their flag state responsibilities, their coastal, port and market state measures and the role of RFMOs in the implementation of the NPOA.

Adopted by FAO in 2009, the Agreement on Port State Measures (PSMA) entered into force in 2016 and represents the first binding international agreement to specifically target IUU fishing. Its main objective is to prevent, deter and eliminate IUU fishing by preventing vessels engaged in IUU fishing from using ports to land their catches. In this way, the agreement reduces the incentive of such vessels to continue operations while it also blocks fishery products derived from IUU fishing from reaching national and international markets. The provisions of the PSMA apply to fishing vessels seeking entry into a designated port of a state which is different from their flag state. The effective implementation of the Agreement ultimately contributes to the long-term conservation and sustainable use of living marine resources and marine ecosystems.

The Voluntary Guidelines for flag State performance (VGFSP) were adopted in 2014 by FAO to provide guidance to strengthen and monitor compliance by flag states with their international duties and obligations regarding the flagging and control of fishing vessels. Fisheries management, registration and records of vessels, authorizations, MCS and cooperation between flag states and coastal states are among the central components of the Guidelines. The VGFSP spell out a range of actions that countries can take to ensure that vessels registered under their flags do not conduct IUU fishing and that they carry out MCS activities, by for instance using VMS and observers.

The information exchange and cooperation foreseen in the VGFSP enables flag states to refuse to register vessels that are “flag-hopping” or to refuse port entry for vessels that have been reported for IUU fishing. The Guidelines also include recommendations on how countries can encourage compliance and take action against non-compliant vessels, as well as on how to enhance international cooperation to assist developing countries to fulfil their flag state responsibilities.

In 2017, FAO adopted the Voluntary Guidelines for Catch Documentation Schemes (VGCDS). The objective of the VGCDS is to provide assistance to states, RFMOs, regional economic integration organizations and other intergovernmental organisations when developing and implementing new CDS, or harmonizing or reviewing existing CDS. The CDS is a system to determine throughout the supply chain whether fish originate from catches consistent with applicable national, regional and international conservation and management measures, established in accordance with relevant international obligations. As a trade-related measure to prevent, deter and eliminate IUU fishing, CDS functions most effectively in synergy with other international instruments, including the PSMA and the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels.

More recently in September 2022, the FAO Committee on Fisheries adopted the Voluntary Guidelines for Transshipment. Transshipment involves the direct transfer of any quantity of fish from one vessel to another, regardless of its location, before the cargo is recorded as landed at its final destination. The objective of these Guidelines is to assist states, RFMOs and other intergovernmental organizations by providing standards for developing policies and regulations that govern transshipment, with a view to integrating these in the regulatory framework for sustainable fisheries management. They require all transshipments to be adequately regulated, authorized, monitored, documented and complemented by port, coastal and flag state measures.

Under the Guidelines, it is recommended that states and RFMOs:

- Ensure that vessels involved in transshipments are authorized by the relevant flag, coastal or port state and that vessels notify the relevant authorities before conducting any type of transshipment;
- Adopt transparent reporting procedures to facilitate the verification of authorizations and transshipment data, allowing for effective MCS actions;
- Ensure that all vessels involved in transshipments provide a declaration containing specific data about the quantities of fish, the species and bycatch;
- Share transshipment data such as vessel lists, notifications, authorizations and declarations, observer and inspection reports, infractions and sanctions;
- Establish reporting procedures to collect and cross-reference information on the quantity of fish landed by species, and product form, area, and country of origin for processed fish.

It is worth mentioning that combatting IUU fishing has been escalated at the highest level in the UN since 2015, within the framework of the 2030 Agenda for Sustainable Development. Two SDG 14 targets aim to end IUU fishing (target 14.4) and eliminate subsidies that contribute to IUU fishing (target 14.6) by 2020.

Finally, trade-related measures to combat IUU fishing are implemented by certain countries and RFMOs. They are i) restrictive trade measures (RTMs) enacted by market states that import fish products and ii) catch certification schemes comprising trade documentation schemes (TDS) and catch documentation schemes (CDS).

TDS have been used by RFMOs since the early 1990s to monitor trade in tuna species, one of the most expensive species. A key attribute of TDS is their capacity to detect FoC vessel operations. The schemes require flag states to validate documentation for trade in specific tuna species. Trade documents therefore enable the identification of exports of tuna sourced from fishing vessels flying the flags of RFMO non-member states, who are barred from harvesting the species covered by the RFMO.

Both the US and the EU have in place systems that allow for restrictive trade measures to be taken against countries perceived as doing too little to address IUU fishing. The EU uses RTMs in the form of yellow cards (identification of non-cooperating countries) and red cards (ban on imports). States can only become the object of EU trade measures in their capacity as flag states; port or market states that actively participate in the laundering of IUU products cannot be targeted.

The US has identified countries involved in IUU fishing since 2009. To date, none of these identifications has led to a "negative certification"—the equivalent of an EU red card. US legislation allows trade measures to target only fleets, species, and product types directly tied to the IUU fishing that has given rise to the identification.

Adopted by the FAO Committee on fisheries, the Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Global Record)[16] is a global initiative that primarily involves state authorities and RFMOs in compiling an comprehensive and updated online repository of vessels involved in fishing operations. The main objective is to provide a useful and powerful tool to deter and eliminate IUU activities, within the available framework of legal instruments, making it more difficult for vessels to operate outside the law.

An essential element of the programme is the assignment of a unique vessel identifier (UVI) to each vessel worldwide, which remains constant throughout the vessel's lifetime regardless of change of name, ownership or flag. The programme also provides for capacity development initiatives around the world. As of April 2023, IMO Numbers, which serve as Global Record UVIs, have been allocated to more than 23 000 fishing vessels worldwide. There is a total of 4.6 million fishing vessels of all sizes and types included.

WTO Agreement on Fisheries Subsidies

Under the WTO Agreement on Subsidies and Countervailing Measures (SCM), a subsidy is a financial contribution provided by a Government to actors in the private sector. The transfer can be direct (grants, tax exemptions, loans at below market rates) or indirect, such as services to the private sector (infrastructure, research, etc.).

After more than 20 years of negotiations, WTO members finally reached an agreement on fisheries subsidies at the twelfth WTO Ministerial Conference on 17 June 2022. This is a standalone landmark treaty that seeks to address the depletion of marine resources caused by overfishing, overcapacity and IUU fishing. It seeks to curb harmful subsidies globally and establish vital safeguards where fisheries regulations or management measures do not exist or are ineffective.[17]

The WTO Agreement on Fisheries Subsidies embodies compromises and flexibility on regulating or outright prohibiting subsidies that contribute to IUU fishing and is enforceable under the WTO dispute settlement mechanisms. The Agreement also includes rules prohibiting subsidies for fishing of overfished stocks, except those that are implementing management measures to rebuild the stock to a biologically sustainable level, and fishing in unregulated high seas beyond the jurisdiction of coastal or non-coastal states and of relevant RFMOs.

The Agreement expands existing transparency and notification requirements under the WTO SCM Agreement, and obliges Members to indicate the type of fishing activity for which the subsidy is provided and to the extent possible information on: (i) status of the fish stocks in the fishery; (ii) conservation and

[16] https://www.fao.org/global-record/en/.
[17] UNCTAD, 2023.

management measures in place; (iii) fleet capacity; (iv) identification number of the fishing vessels; and (v) catch data by species or group of species in the fishery.

A crucial area that did not gain sufficient consensus for an additional prohibition were subsidies that contribute to overcapacity and overfishing. To overcome this challenge, the Agreement includes a clause, which essentially encourages Members to negotiate, review and build consensus on new provisions within four years of the entry into force of the Agreement.

To enter into force, two thirds of the WTO Membership must: (i) deposit their instruments of acceptance, ii) develop the Agreement's implementation phase, particularly in developing countries; and (iii) adopt comprehensive disciplines within four years of the entry into force of the Agreement. Failing to do so will run the risk of the Agreement being terminated upon the decision of the WTO General Council.

Chapter III

Overview of past and current fisheries access agreements

Typology and modalities

Globally, there are multiple fisheries access arrangements and agreements, involving many DWF countries and companies (resource seekers) negotiating modalities and conditions to access fisheries resources in the EEZs of coastal states (resource holders). Depending on the access modality, the arrangements have been categorized into first- or second-generation arrangements. In a first-generation arrangement, the resource seeker gains the right to fish in a coastal state EEZ by paying a resource rent (cash for access), while in a second-generation arrangement, DWF nations and firms gain access to an EEZ fishery by registering the vessels domestically or making a local investment that entitles them to a fishing license.[18]

First-generation arrangements typically spell out rules and requirements relating to fisheries management, MCS, and enforcement. Second-generation access arrangements involve one or a combination of two broad mechanisms: the allocation of access or reduced licensing costs in return for the vessels registering locally and agreeing to use local goods and services through transshipment, landing the fish domestically, or issuing 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 and technology transfer. Historically, second-generation arrangements included joint ventures with host governments (e.g. Japan in Fiji and Solomon Islands). Recent arrangements trend towards private sector-led arrangements with significant state concessions (fisheries licenses, access to land, tax breaks, and other incentives).[19]

Likewise, depending on the players negotiating the agreement, fisheries access arrangements can be classified into reciprocal or non-reciprocal arrangements. Reciprocal arrangements involve parties that can be both resource holders and resource seekers. This means that the arrangements are less about revenue capture by the resource holder, and more about resource sharing and pooling. These are generally, but not exclusively, arrangements between developed countries (e.g., the European Union–Norway) or between DWF nations, as in the case of various ongoing fishing arrangements in the East China Sea among China, Japan, the Republic of Korea and Taiwan Province of China. Some arrangements between developing countries can be reciprocal, as is the case of the Mauritius–Seychelles agreement. A non-reciprocal arrangement usually involves a developed country seeking access to the EEZ resources of a developing coastal state (Table 1).

Regardless, the situation has been very dynamic during the last decades to adapt to the diversity of players, their interests and capabilities and the types of fisheries concerned. As a result, fisheries access arrangements have evolved over time and space into a wide constellation of agreements reflecting the technical and institutional capacities and the leverage of the concerned parties to negotiate and implement the arrangements. Non-reciprocal developed-developing country arrangements are the most prevalent. Their negotiation and enforcement are influenced by the economic situation of the coastal state and its institutional and technical capacity, geopolitics and conflicting regional and international state interests. They are also impacted by the type and location of fish stock, i.e. whether it concerns fish stock of an EEZ, transboundary stocks between various EEZs or the high seas.[20]

Fisheries access arrangements have evolved over time into a wide constellation of agreements reflecting the technical and institutional capacities and the leverage of the parties to negotiate and implement the arrangements.

[18] FAO, 2022.
[19] FAO, 2022.
[20] Munro et al., 1998; Mwikya, 2006; Martin et al., 2008; Yozell and Shaver, 2019; FAO, 2022; Stabler et al., 2022.

Current IFAAs fall into one of the following categories:

- **Access agreements between governments**, whereby the coastal state negotiates directly with the DWF state the conditions and modalities for granting access to its EEZ fisheries. The agreement can be bilateral (used by the EU with coastal states) or plurilateral (used by the USA with the Pacific Island Countries, PICs). The agreement will often set the compensation and its modalities, the number and type of DWF vessels, the target species, the time period and allowable quotas to be captured.
- **Access agreements between a coastal state and a private company or an industry association.** This model is used by fleets flagged by Japan and Taiwan Province of China and will often follow a similar pattern as bilateral agreements. They set out a specific timeframe in which a vessel is allowed to fish, the species of fish and allowable quotas to be captured. In both cases, the foreign vessel will retain the flag of its country of origin.
- **Charter agreements or joint venture agreements** utilized by DWF vessels to access another country's fishery resources. A charter agreement is a lease agreement between a DWF vessel and a company based in the coastal state. The coastal state company essentially rents the foreign vessel, including its crew, to carry out fishing operations. Often the flag of the foreign vessel remains despite being rented out. In a joint venture agreement, there is a partnership agreement between the coastal country company and the DWF company – often with the coastal country company owning at least 51 percent of the venture.

Table 1.
Typology of fisheries access arrangements

Type of agreement		Government to government	Government to private company	Private to private
Reciprocal	Bilateral	Two countries grant each other permission to fish in each other's EEZs. Usually includes management agreements. Examples: Reciprocal agreements in the East China Sea.	N/A	N/A
	Plurilateral	Three or more countries grant each other access to EEZs. Examples: Trilateral agreement between Iceland, Norway, and Russia.	N/A	N/A
Non-reciprocal	Bilateral	Fishing rights are granted to the DWF nation in the EEZ of the host countries. Examples: Fisheries partnership agreements between the EU and individual African countries.	Foreign fishing companies sign agreements with governments of host countries. Examples: South Korean, Taiwanese, and Chinese fishing agreements with host countries in Asia and Africa.	Joint ventures between foreign investors and fishing companies in host countries. Examples: After the termination of the EU-Senegal FPA, many Spanish operators either reflagged their vessels or went into joint ventures with local operators.
	Plurilateral	Two or more host countries grant DWF nations access to joint EEZs. Examples: U.S. treaty with several Pacific Island States.	Foreign fishing companies sign agreements with the governments of two or more host countries. Examples: Fishing agreements with countries of the Nauru-agreement.	N/A

Whether a charter or joint venture agreement, the expectation is that there will be significant knowledge transfer from the DWF company to the coastal state company, especially since both charter and joint venture agreements often require a proportion of the crew to come from the coastal state.

Compensation

Compensation for access to EEZ fisheries can be monetary, non-monetary or a combination of both. UNCLOS recognizes the right of coastal States to charge access fees on the basis that they have sovereign rights on their EEZ fisheries resources. Fees may also legitimately be demanded for harvesting and associated activities such as transshipment and the use of local ports and airports. The FAO Code of Conduct for Responsible Fisheries states further that, where necessary and where appropriate, coastal states should seek to recover the incremental costs related to MCS, scientific research and fisheries data collection and exchange through IFAA compensation fees.

Non-monetary compensation can take diverse forms, including technical assistance and training, building infrastructure, the provision of fishing vessels, patrol boats, MCS equipment, aid to the small scale or industrial fishing sector, access to markets and concessions in other sectors of commercial relations. However, these forms of compensation are often not closely evaluated in terms of monetary options foregone, the appropriateness and quality of equipment provided and its maintenance needs.

In theory, market conditions determine the monetary value that the coastal state can obtain against access to its EEZ resources. Based on the 'resource rent concept', the resource rent represents the excess revenue over and above the costs of production. The resource rent covers capital investment costs, return on managerial skills, profits and access fee. A combination of specific factors significantly influences the amount of monetary compensation. These factors include the coastal state's bargaining power and negotiating capability, its economic, political and debt circumstances, competitiveness and value of the relevant species or stocks as compared to other offers of access.

There are different forms for calculating and dispensing the compensation for accessing the EEZ fisheries.[21] Table 2 summarizes the advantages and disadvantages of each. The yearly lump-sum method represents an annual fee agreed between the coastal state and the DWF state or association. This fee may have both cash and non-cash components. The cash fee may be a one-off payment or several payment tranches. In return, the coastal state grants the right to fishing for a maximum number of vessels during the year. The lump sums may be based, for example, on a percentage of a prescribed value of the expected catch. It is estimated on average at 5 to 15% of the catch value, although up to 20% is not unrealistic if there is a high demand for access to the fishery. With the lump-sum, the coastal state shifts the responsibility for managing transaction costs within the fleet to the DWF state or association. While this method provides a higher certainty of financial income to the coastal state, it does not provide an incentive for the coastal state to build up information and data collection on its fishery and invest adequately in building effective monitoring and enforcement. The fishing fleet is essentially uncontrolled and compliance shifts to the association or the DWF state with no guarantees that it will be undertaken properly.

With the catch-based method, the foreign fleet pays a fee based on the catch volume during the licensed period. A number of variants to this method are possible. They reflect particular features of the fishery or the destination markets. This

[21] FAO, 2022.

method also provides a high certainty for financial income to the coastal state, but it imposes monitoring, catch reporting and the use of observers on-board fishing vessels. On the other hand, it creates an incentive for fishers to under-report catch. In the case of variable catches from one year to the next (e.g. tuna), the coastal state income is irregular. It reduces the possibilities for funding ecologically responsible fishing measures and may require compulsory VMS.

In the effort-based method, the coastal state charges a fee for a period of access to the EEZ – i.e. based on actual level of effort. Once the vessel is licensed, there is no limit on the catch volume during the authorized period. This method guarantees a revenue regardless of the catch level and the incentive to misreport the actual catch is therefore removed.

Table 2.
The different forms of compensation for granting access to fisheries

1. Lump sum	Advantages	Disadvantages
Coastal state	Provides a high degree of financial certainty	No incentive to build up information on its fishery unless independent investment is made in a high level of monitoring and enforcement; fishing fleet is essentially uncontrolled; compliance shifts to the DWF state or association with no guarantees that monitoring and conservation measures will be undertaken properly.
DWF state	Can negotiate a stable but low sum	Generally advantageous; fishing fleet may pay a higher sum compared to catch in situations where the catch is low as with El Nino and similar events.
DWF fleet	Can negotiate a stable but low sum	Generally advantageous; fishing fleet may pay a higher sum compared to catch in situations where the catch is low as with El Nino and similar events.
2. Catch based method	**Advantages**	**Disadvantages**
Coastal state	Provides a degree of certainty	Imposes substantial monitoring (catch reporting and observers); incentivizes under-reporting; provides irregular income where catches vary highly from year to year (e.g. tuna); makes funding and measures for ecologically responsible fishing more difficult; may require compulsory VMS.
DWF state	Protects fishing fleet from paying high fees when catch is poor	Generally advantageous
DWF fleet	Protects fishing fleet from paying high fees when catch is poor	Generally advantageous; VMS may be required, including costs.
3. Effort basis method	**Advantages**	**Disadvantages**
Coastal state	Removes the incentive to misreport catch; revenues available in good years as well as bad; clear amount of funds for ecologically responsible management.	Regulatory burden relatively high to fix most elements of operations by fleets or at least model them; requires information and analysis of fishing patterns, market information, catch and effort data and a well-resourced and informed licensing authority; may require compulsory VMS with its costs.
DWF state	Payable fee known well in advance and the state can plan its recovery from the fleet	No guarantee of catch; may have to subsidize fishing fleet in years without good catch.
DWF fleet	Fee known in advance and can be planned for; possible to negotiate terms with lower payments when bad year can be anticipated or has occurred.	No guarantee of catch for purchase of a license

Source: Mfodwo, 2008.

However, the coastal state must be in a position to make a reasonable estimate of its revenue based on the catch rates anticipated for each vessel, and on the conservation impacts as per its management plan. This requires a comprehensive management effort and related resources for its implementation and the deployment by the coastal state of efficient administrative capacity and processes. The full range of reporting instruments may also have to be used, including the firm's adherence to a fishing plan.

Ideally, the form of compensation should consider the ecological impact of the agreement on the EEZ fisheries resources and its ecosystem services as well as the other resource users to compensate for any negative ecological impacts (or externalities), including the costs of regeneration of ecosystem services. This is in line with international instruments such as the UN Fish Stocks Agreement (UNFSA, 1995)[22] (UNFSA) and the FAO Code, which promote emphasis on the eco-system approach to fisheries management. Such an approach would also support the concept of obligations towards future generations (intergenerational equity) – a key aspect of the principle of sustainable development.

In addition to the compensation fee, IFAAs can generate significant employment and value addition in both the DWF nations and coastal states. In several countries in Europe (e.g. Spain, France) or Asia (e.g. China, Japan), Africa (e.g. Morocco, Cote d'Ivoire, Mozambique), Indian Ocean (e.g. Mauritius, Madagascar) or the Pacific ocean (e.g. Fiji, Solomon Islands), significant job creation is associated with fisheries agreements, and the political consideration to maintain these jobs is taken into consideration when negotiating agreements. These jobs include people working in fishing, processing, shipbuilding, supplies, repair and maintenance, refueling and transshipment.

Evolution of fisheries access agreements

The socio-economic and ecological importance of global fisheries and the modalities of their harvesting through IFAAs has been studied and scrutinized extensively for decades, in particular following the adoption of UNCLOS and related international instruments. It has mobilized researchers, academics, UN institutions, other financial and technical organizations and institutions, NGOs and many players of the global fisheries arena. These studies aim at mapping the various agreements, their modalities, the key players and the factors shaping them and their implications for international development and global fisheries sustainability.

Methods for tracking and analysing fisheries access agreements and distant water fishing fleets

Information and data to study IFAAs and the global make-up and operations of DWF fleets are not easily accessible. Many agreements have been opaque and reliable information on the conditions and modalities of their negotiations and enforcement is not disclosed. The situation required the development of independent alternative methods to track DWF vessels, the ocean areas harvested and related catch estimates. Up to 25 years ago, these estimations used catch data reported by coastal and port states to FAO, RFMOs and others, from which catches of DWF fleets were estimated by species, DWF nation, areas harvested, and their economic and ecological implications.

These methods have been elaborated further using different catch reconstruction approaches and other complex modeling systems.[23] For example, researchers have been, since many years, reconstructing

> Ideally, compensation should account for ecological impacts on EEZ fisheries and ecosystem services, and redress any negative ecological impacts.

[22] See Annex I.

[23] Bofil, 1998; Munro et al., 1998; Mwikya, 2006; Yozell and Shaver, 2019; FAO, 2022; Stabler et al., 2022.

catch data to complement the FAO catch data for over a hundred coastal states. The freely accessible reconstructed data[24] include estimates of unreported catches for maritime countries from 1950 to 2014. These data were developed using country-specific secondary data and information sources such as peer-reviewed studies, grey literature reports, and local expert knowledge. In an exchange with the main authors of the reconstructed catch data,[25] FAO recognizes the potential value of catch reconstructions as they may help identify fisheries' sub-sectors that are not well covered in national data collection systems (e.g. recreational catches), help countries revise their submissions to FAO and assess overall fishing pressure on particular ecosystems.[26] However, FAO recommends recognizing the uncertainty involved when interpreting contrasting trends that may derive from such reconstructions compared to primary sources (FAO data).

Recent technological developments in machine learning and satellite data have significantly improved the ability to examine and monitor global fishing and fisheries, and improve the accuracy of estimating fishing efforts across the globe at the level of individual vessels. New technologies, using AIS and VMS, help to identify when and where a fishing vessel is operating, what type of fishing gear is likely being used, and even to estimate fishing effort in near real-time. VMS are designed to automatically acquire and transmit to the flag state the position, speed and heading of the vessel. Any interruption of VMS signal reception can raise an alert in the MCS room and may be analyzed as a potential attempt to fraud. Because of its high level of data security, VMS is fit for the purpose of fishing effort estimation, distant control and possible at-sea inspections.

Like VMS, AIS transmits the vessel position and movements but more frequently and in open broadcast format, so that anyone with an appropriate AIS receiver can pick up the messages. The AIS usage has greatly changed with the introduction of web-based AIS data providers and commercial satellite-AIS constellations. The reference data portal providing free access to global AIS data sets is the Global Fishing Watch (GFW), which acquires AIS from satellite operators, publishes them and supports data analytics that point to potential transshipment and IUU activities.

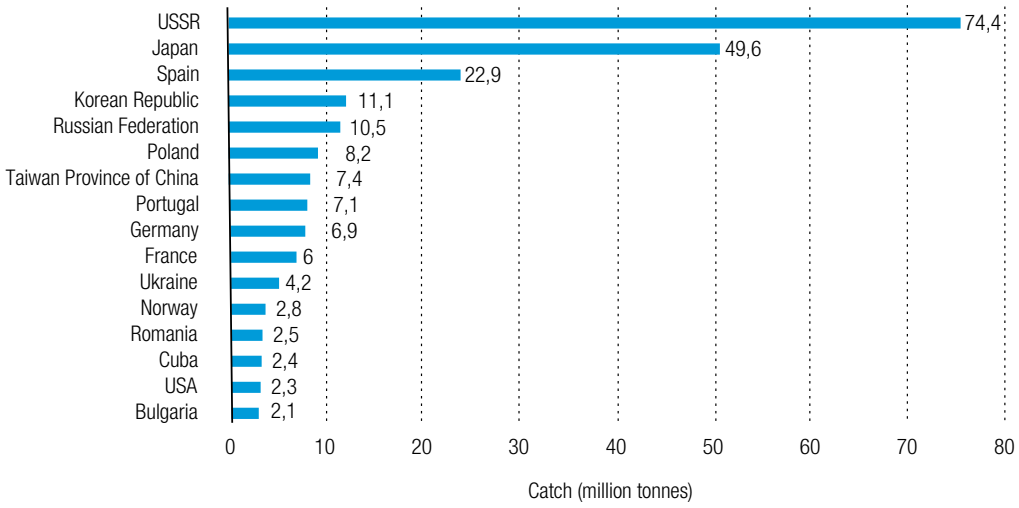
The data extracted from GFW enable detailed analyses of issues such as the economics of DWF fleets, subsidies, overfishing or IUU fishing.[27] These new tools and research methods enable fisheries experts, managers, and enforcement officials to understand better and monitor fishing activities offshore; and assess their economic and ecological implications. The use of these tolls is currently not mandatory, fishers can easily turn off the AIS system for various reasons, for example to avoid disclosing the best fishing grounds, or because they are engaged in illegal activities. Fishers may also purposefully tamper with their AIS device to send false identifiers or positions (Demian et al., 2023).

Distant water fishing during 1950-1994

Among the main DWF states during the period between 1950 and 1995, two countries stand out as the most dominant DWF nations (DWFN): the former USSR (until its disappearance) and Japan (Figure 4). Together, they accounted for over half of the total catches by DWFNs, the USSR with 32% and Japan with 21% of the total. Spain followed on the third place with about 10% of the catches.

[24] www.seaaroundus.org.
[25] Pauly and Zeller, 2017.
[26] Yimin et al., 2017.
[27] Kroodsma et al., 2018; Yozell and Shaver, 2019; Canyon et al., 2021.

Figure 4.
Main DWF nations and their cumulative catches during the period 1950 – 1995



Source: Bofil et al., 1998

Other important DWF nations were, in order of importance, the Republic of Korea (5%), the Russian Federation and Poland (4% each), Taiwan Province of China, Portugal, Germany, and France (3% each), Ukraine (2%), Norway, Romania, Cuba, Bulgaria, and the United States (1% each), followed by 53 other nations with smaller catches.[28]

Most fleets from Eastern Europe and Asia had very long ranges of activity, whilst Western European states tended to concentrate their fishing in more discrete parts of the world. A strong correlation was observed in fishing practices among Eastern European DWF states, as well as between Japan and the Republic of Korea. In both cases the species and areas fished were strikingly similar among states.

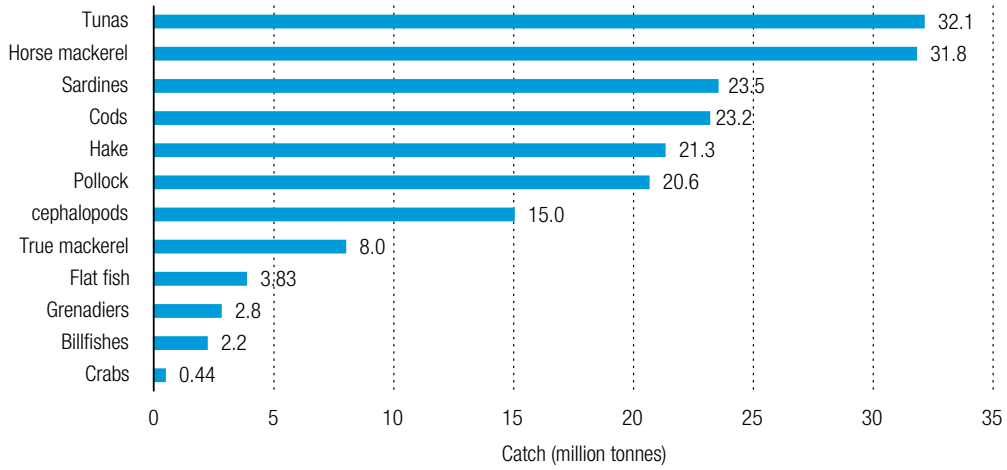
Although most DWFNs targeted a large variety of fishery resources, there are clear patterns showing that Eastern European nations specialized in fishing for high-volume, low-value small and middle pelagic fishes such as mackerels and sardines. In contrast, Asian nations, while also fishing for a wide range of species, tended to diversify into both low-price high-volume species such as pollock, and high-price species such as tunas and squid. The USA harvested mainly skipjack and yellowfin tunas.

Overall, tunas were the fishery resources most intensively fished by DWF states, amounting to over 32 million tons during 1950-1994 (Figure 5). These were followed by horse mackerels - and in particular the Chilean horse mackerel - of which over 31 million tons were fished. Two species stand out as the most heavily fished by DWFNs: Atlantic cod and walleye pollock, each accounting for more than 20 million tons of accumulated catch. Other important stocks are sardines and hakes. Cephalopods, true mackerels, flatfishes, grenadiers, billfishes, and crabs also rank prominently among the fishery resources sought by DWFNs.

Geographically, the activities of DWFNs covered all the seas. However, most of the fishing activity had historically been centered on four main FAO areas: the

[28] Bofil et al. (1998).

Figure 5.
Fish species harvested by DWF fleets during the period 1950-1995



Source: Bofil et al., 1998.

Central Eastern Atlantic (FAO Area 34), the Northwest Atlantic (FAO Area 21), the Northeast Pacific (FAO Area 67), and the Southeast Atlantic (FAO Area 47). Fishing in these four areas represented about 75% of the total harvested by DWF fleet. The dominating DWF fleet were from USSR and Spain in Area 34, mainly from USSR in Area 21 where it harvested by far the largest catches (mainly Atlantic cod), and principally from Japan in Area 67, with catches also by the USSR and the Republic of Korea (mostly walleye pollock). In Area 47, the main DWF fleet were from the USSR, with Spain, Japan, and Poland also having very important catches.

Typical for the time were extremely disproportionate shares of the total catches between coastal and DWF nations. For example, for over 45 years, about 80% of the total catch was captured by the DWFNs off the EEZs of Mauritania and Senegal. Similar figures were reported off the EEZ of Namibia.

The top five DWF fleets represented 89% of the DWF fleets' operations

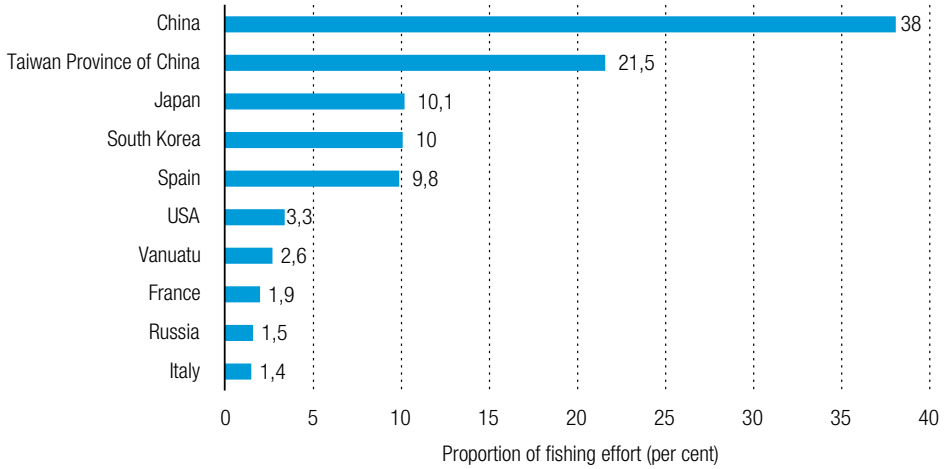
Distant water fishing today

Today, the top ten of DWF fleets represent partially different nationalities than in the past decades. Current global leaders are fleets from China and Taiwan Province of China, as Russia and European countries have downgraded operations in different regions. In 2016-2017, China and Taiwan Province of China represented nearly 60% of all global DWF effort, with Japan, South Korea and Spain each representing about 10%. The top five DWF fleets represented 89% of the DWF fleets' operations, indicating a need to focus research efforts on these fleets.[29]

Activities of the top five DWF fleets targeted four main regions of the ocean: the Pacific, West Africa, East Africa, and South America. They primarily used four types of fishing gear: longlines, squid jigging, trawling, and purse seining. The length of these vessels usually ranged from 20 to 90 meters, and sometimes even longer.

[29] Yozell and Shaver, 2019, based on AIS data of GFW from 2016 to 2017. The AIS data were supplemented by a review of current activities of DWF vessels, including a review of existing fisheries management and enforcement strategies employed by the coastal countries, historical and current financial and political support, and oversight of DWF fleets by their national governments, complemented by over 50 expert interviews.

Figure 6.
Proportion of fishing effort by the top ten DWF fleets based on AIS data from Global Fishing Watch, 2016-2017



Source: Yozell and Shaver, 2019.

Over two-thirds of the DWF fleet were either longliners or purse seiners which targeted the valuable tuna and tuna-like species and utilized carrier vessels to support their operations through resupplies, refueling, and transshipment. The remaining fishing activities of the top five fleets were those carried out by trawlers and squid jiggers. Trawlers from China, Spain, and South Korea operated in the Western coast of Africa, in particular Guinea Bissau, Mauritania, Angola, The Republic of Congo, and Sierra Leone. Squid jiggers primarily targeted South America, including the Falkland Islands (Malvinas), Argentina, Peru, Uruguay, and Chile, and to a lesser extent the Republic of the Congo.

The ports most utilized by the top DWF fleets were Dakar in Senegal, Conakry in Guinea, Majuro in Marshall Islands; Suva in Fiji and Nouadhibou in Mauritania. These ports support the DWF industry by resupplying, refueling, offloading catch, and other activities critical to the operations of a DWF vessel. However, DWF vessels do not always land catch at port and instead rely on transshipment vessels to carry the catch to the market. The ports most frequented by transshipment vessels after a potential transshipment from a DWF vessel are Port Louis in Mauritius, Busan in South Korea, Papeete in French Polynesia, and Singapore and Cape Town in South Africa. Eight out of ten of these ports are party to the PSMA, which indicates a level of commitment to prevent IUU fish from entering the supply chain. However, there is a need to evaluate further the capacity gaps at each port, particularly their ability to verify and validate the landings.

Research indicates that **when deciding on where to deploy its fleet, DWF nations or companies consider, in order of importance, economic returns, the level of governance and enforcement capacity of the coastal state, and the political influence of DWF nations**. DWF fleets are driven to certain areas of the ocean based mainly on economic incentives. The primary economic drivers are target fish species, cost of access and fishing, and proximity of the fishery to markets. Over two thirds of the top five DWF fleets target tuna, 15% target squid, and 14% utilize trawl fishing that primarily target pelagic and shrimp species.[30]

[30] Yozell and Shaver, 2019.

Accessibility to viable ports for offloading and processing catch, as well as resupplying, is also critical. Some coastal countries have both the highly valued species targeted by DWF fleets and well-equipped ports that DWF vessels visit to offload catch. Everything from processing facilities to appropriate dock infrastructure influences where a DWF vessel may visit and land its catch. Without such facilities, DWF vessels rely on refrigerated transshipment vessels to ship their catch to market, and they are properly resupplied while at sea.

While economic forces and business calculations are critical considerations that influence the operations of DWF vessels, fisheries governance and enforcement also play important roles. The DWF vessels most likely to engage in IUU fishing are attracted to countries lacking robust fisheries management regimes. Those countries often also lack the capacity to effectively monitor, enforce, and prosecute perpetrators that violate existing fisheries laws. There are widespread accusations that these fleets acquire access to fishery resources by exploiting corrupt practices of institutions and officials.[31]

Finally, DWF fleets' operations can be motivated by political influence. Increasing scarcity of fisheries resources has intensified the geopolitical importance of accessing the fisheries of coastal countries. Within this context of declining global fish stocks, DWF states are increasingly incentivized to use tacit agreements and coercion where infrastructure or targeted development assistance may translate into access to EEZ fisheries. Instances of such influence exist across the DWF industry.[32] The lack of transparency surrounding the DWF industry, including access agreements and beneficial ownership of joint-ventures and charter agreements, breeds a perception of corruption. With limited or no transparency, those outside the process are left to assume the worst unless helped with clear data.

Socioeconomics of key fisheries access arrangements

A recent comprehensive mapping of IFAAs by FAO, with case studies from Japan, the EU, China, Taiwan Province of China, the Republic of Korea, the United States of America, the Russian Federation, and the Philippines, covers existing access arrangements in developing countries by major regions – Africa, Asia, Latin America, and the Pacific Islands.[33] The report outlines different access arrangement structures and shows how these structures are enacted in practice.

Three core characteristics of current IFAAs can be distinguished on this basis, including:

1. **Access relations are a fundamental aspect of global fisheries worldwide**: Access relations shape and are shaped by policies and practices of fisheries management, as well as national and global markets and trade.
2. **Dynamic nature**: Resource-owning and resource-seeking states and firms are changing and constantly experimenting on best modalities to achieve their dynamic goals and objectives. For example, while many access arrangements are bilateral in nature, there are multiple instances in which resource-owning states have collaboratively managed access when they share governance of straddling stocks, demonstrating the importance of regional cooperation.
3. **Context-specificity**: Each access arrangement reflects the production conditions in a particular fishery, and therefore they vary from fishery to fishery. For instance, governments of coastal states have varied degrees of sovereignty over fisheries in their EEZs, depending on the location of the resources (e.g. whether they are in territorial waters or not) and whether

[31] Yozell and Shaver, 2019.
[32] Yozell and Shaver, 2019. Guthierrez et al., 2020.
[33] FAO, 2022.

they are highly migratory or part of straddling stocks. Further, flag states define rules that firms operating under their flag must comply with, including operational, labour, reporting and insurance obligations. Since operating laws vary widely between flags, it can affect the running costs of fishing firms and rents that can be captured. Also, firms' positioning in GVCs may have an impact on the fees. In addition, geopolitics have a role to play in the content of agreements. Flag states negotiate access through geopolitical relations and policy instruments such as the provision of development assistance and market access, both of which have been directly or indirectly related to access issues throughout history.

Furthermore, third parties are increasingly entering the negotiation scene between coastal states and DWF nations and firms. **Different civil society organizations ranging from small-scale, locally focused fishers' groups to some of the largest international environmental NGOs play an increasingly important role in advocating for substantive terms and conditions in access agreements.**

Coastal states may be seeking a wide range of different types of benefits to boost domestic returns from access arrangements, including geopolitical influence, licensing fees, job creation, and value addition to industry, depending on the domestic political economy. From the standpoint of industrial policy and fisheries GVCs, industrial "upgrading" should be favored over the maximization of rent capture in the form of government revenue; for instance, through the ownership of vessels or processing units. Yet, in practice, the outcomes of such efforts have been mixed, and the tendency to aim for "upgrading" can ignore or downplay issues such as tax avoidance, GVC lead firm dominance through market power, and weak power of small suppliers in GVCs.[34]

Risk management is an essential consideration in access strategy and needs to be backed by strong analytical tools to form evidence-based decisions. Protection of fisheries as a public asset entails recognizing and mitigating or removing any significant threat to the asset such as unsustainable fishing permanently threatening the value of the asset. When a coastal state's focus is on broader socioeconomic returns, such as employment or environmental protection, it may be worthwhile to consider whether access revenue from fisheries could be used more effectively, for instance to support job creation in non-fisheries industries, cross-sectoral investments in infrastructure or broader job creation.

In sum, regardless of the classification of access arrangements as first or second-generation, their actual functioning and experience are region- and context-specific. Therefore, while efforts towards "best practices" in access agreements are vital, the nature and consequences of access agreements will ultimately be a case-specific empirical matter.

Major distant water fishing nations' approaches to fisheries access arrangements

European Union (EU)

Historical background

Since the late 1970s, the EU has entered into many arrangements with different coastal states to gain access to their EEZ fisheries in return for monetary and non-monetary compensation. The Common Fisheries Policy (CFP) was first introduced in 1970 and has undergone revisions every ten years since then. The CFP was initially linked to the Common Agricultural Policy (CAP) but over time has become independent. In 2002, the primary goal

[34] UNCTAD, 2018.

of the CFP was to ensure sustainable fisheries and guarantee stable incomes and employment for the EU fishery sector. In 2009, the Treaty of Lisbon came into force, granting the European Parliament greater power to legislate, enabling it to further shape the CFP and supervise the rules that govern the EU's fishing activities. In 2013, the EU Council and the European Parliament reached an agreement on a reformed CFP with a revised vision of long-term environmental, economic and social sustainability for fishing and aquaculture activities in the EU and collaboration with third countries and international organizations on compliance with international conservation and marine living resources management measures.

As a result, the focus of the EU Fisheries Agreements shifted away from the early cash for access agreements. First, after the 2002 CFP reform, the EU moved to the integrated framework for Fisheries Partnership Agreements (FPAs) and, second, since the 2013 CFP reform, to Sustainable Fisheries Partnership Agreements (SFPAs) with third countries.

The Sustainable Fisheries Partnership Agreements

The fisheries reforms undertaken by the EU over the years aimed to provide the basis for FPAs which, while prioritizing sustainable development, can meet the needs of the EU fishing fleet, and the needs of the fisheries sectors in coastal states.[35] In contrast to earlier agreements, a portion of the financial compensation should target measures to help develop the local fisheries sector. The 2013 CFP reform added a fisheries policy chapter describing the goals of SFPAs, including restrictions on the access of EU fleets to resources in third countries. Due to these restrictions, the EU stopped its vessels from engaging in octopus fishery in Mauritania, to enable its exploitation by the national fishers.[36]

The SFPAs are negotiated on an individual basis between the EU and each partner state, resulting in variations between the different agreements. Each agreement is complemented by an implementation protocol and EU vessels may only access waters under the jurisdiction of partner countries if the bilateral agreement in place also has an active protocol. The protocols define the specific species caught by EU vessels, the number of EU vessels authorized to fish them, as well as the value and breakdown of the financial contribution.

The EU currently implements two types of fisheries agreements: reciprocal agreements for the joint management of shared fish stocks between the EU and Iceland, Norway and the Faroe Islands and non-reciprocal SFPAs with African and Pacific countries (Figure 7). The SFPAs include nine tuna agreements with Cabo Verde, Côte d'Ivoire, São Tomé and Príncipe, Gabon, Cook Islands, Seychelles, Mauritius, Senegal and The Gambia and four mixed agreements with Greenland, Morocco, Mauritania and Guinea-Bissau. The agreements with Senegal and the Gambia target also hake. The tuna agreements enable the EU vessels to pursue migrating tuna stocks as they move along the shores of Africa and the Indian Ocean, while the mixed agreements provide access to different fish stocks in the coastal states' EEZs.[37]

A recent evaluation of the SFPAs[38] concluded that EU commitments to partner countries between 2015 and 2020 represented an annual average

[35] https://oceans-and-fisheries.ec.europa.eu/fisheries/international-agreements/sustainable-fisheries-partnership-agreements-sfpas_en.

[36] FAO, 2022.

[37] The EU also has seven "dormant" agreements with Equatorial Guinea, Kiribati, Liberia, Madagascar, Micronesia, Mozambique, and Solomon Islands. "Dormant agreements" are SFPAs that are still in force but there is no implementation protocol, and as such EU vessels cannot fish in the EEZs of these countries.

[38] European Commission (Caillart et al.), 2023.

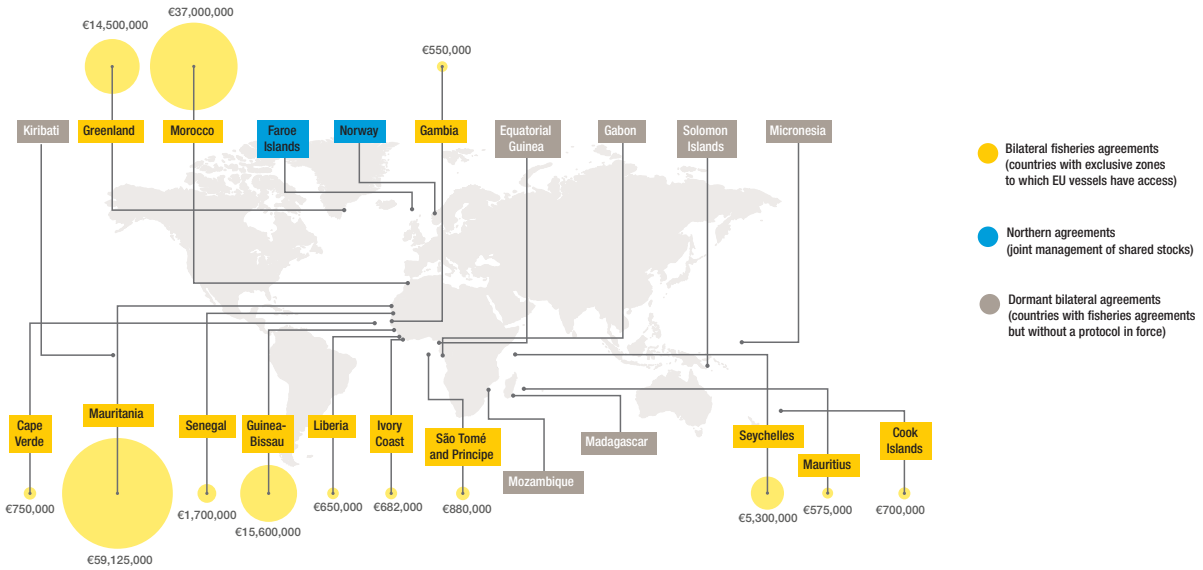
of EUR 159 million in total, including EUR 126 million paid from the EU public budget (EUR 98 million as contribution for access and EUR 28 million as sectoral support) and EUR 33 million paid by EU fishing vessel owners as a compensation for the fishing opportunities.

EU operators wishing to fish under SPFAs must comply with certain eligibility criteria in order to apply for a fishing authorization from their EU flag state. This includes demonstrating a historical record of compliance with applicable rules (for example, no involvement in a serious infringement during the preceding 12-month period) and, in the case of renewal of an authorization to fish under the SFPA, previous compliance with the conditions of that Agreement.

European boat owners can also access fisheries of other coastal states using local registries and charter arrangements. Vessels fishing under these arrangements are not subject to the above eligibility criteria even though they fly the flags of EU Member States – and their catches have the same EU market access as catches under SFPAs. There is an exclusivity clause stating that European-flagged vessels cannot obtain permission to fish using these agreements in a country where an SFPA is in place. Consequently, a Regulation on the sustainable management of external fishing fleets[39] was introduced in 2017 to facilitate more effective monitoring of all EU flagged vessels' operations beyond EU waters, regardless of the framework under which they operate in third country waters, SFPAs or firms-to-governments arrangements.

In summary, the SFPAs represent a significant steppingstone to improved international fisheries management and policy. They are designed to exploit coastal states' fisheries resources within sustainable limits by sharing surplus stocks, consulting all major fishery stakeholder

Figure 7.
EU fisheries access arrangements throughout the world



Source: European Commission, 2019

[39] Regulation (EU) 2017/2403 of the European Parliament and of the Council of 12 December 2017 on the sustainable management of external fishing fleets, and repealing Council Regulation (EC) No 1006/2008, OJ L 347, 28.12.2017, p. 81–104.

groups during negotiations and providing accountability whilst contributing to the social and economic development of the often less-developed partners.

However, research exploring the implementation of SFPAs indicates that this is not always the case in practice.[40] One recurring problem, for instance, is how "surplus" should be defined, particularly considering that many coastal states do not have the appropriate stock assessment data to estimate what is an ecologically safe quantity of fish to extract from their waters. Further, some partner country stakeholders may not have effective capacities to engage in evidence-based negotiations or find themselves in an unequal negotiation position, despite comprehensive consultations. Further, EU vessel operators and coastal states do not always live up to their obligations to report data such as logbook catch and bycatch data, vessel registration information, labour conditions such as crew and wage data, or official reporting on how EU funds were used for sectoral support in partner countries. Even when available, these data may not always be published. It has been reported that the lack of effective transparency, both at the negotiation and implementation level of SFPAs, somewhat hampers the ability of both parties to base their decisions on scientific facts. Lack of publicly available information has also negatively impacted collaboration between fisheries managers. Further, SFPAs have been criticized for the exclusion of different fisheries stakeholders from management evaluations and negotiations, which weakens the SFPAs' legitimacy and could amplify tensions between EU vessels and non-EU country partners.[41]

Fisheries access arrangements and trade agreements

For decades, exports of fisheries and aquaculture products of members of the Organization of African, Caribbean and Pacific states (OACPS), have benefitted from preferential access to the EU market. Under the Cotonou Agreement,[42] tariff advantages have been granted to canned tuna, fish fillets, frozen prawns and shrimp exported by OACPS. For example, OACPS exports of canned tuna entered the EU market duty-free as compared to a 24% most-favored nation (MFN) tariff. This has helped the establishment of canned tuna processing capacity in Ghana, Côte d'Ivoire, Madagascar, Mauritius, Senegal and Seychelles and is considered a success supporting the industrial development in the OACPS.[43]

Prior to 2008, these were non-reciprocal preferences which could be used in line with specific rules of origin. They were subsequently superseded by a network of Economic Partnership Agreements (EPAs), which required exporting countries to comply with a revised set of rules of origin in order to benefit from the preferential access to the EU market. According to these rules, marine fish is considered as originating from a given country if it has been captured within the territorial seas of that country. Beyond the territorial sea, it should be caught by a vessel flying the country's flag or the flag of the EPA partner country or the EU Member State, registered in that country or Member State and owned by a company of the EPA State or an EU Member State.[44]

The rules of origin were designed to prevent third parties from benefiting from the preference. At the same time, they

[40] Johnson et al., 2019.

[41] Johnson et al., 2019.

[42] 2000/483/EC: Partnership agreement between the members of the African, Caribbean and Pacific Group of States of the one part, and the European Community and its Member States, of the other part, signed in Cotonou on 23 June 2000, Official Journal L 317 , 15/12/2000 P. 0003 – 0353. Available at : https://eur-lex.europa.eu/EN/legal-content/summary/cotonou-agreement.html.

[43] FAO, 2022.

[44] FAO, 2022.

benefit the EU vessels by holding their catch as the only or one of the few sources of raw material available to a processor. Ghana and Namibia are exceptions, as their domestically owned industrial fleets comply with European rules of origin. Thus, the 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 EU markets.

The Cotonou Agreement entered into force in 2003. It was revised on several occasions, the latest in 2017 with a focus on issues such as climate change, food security, sustainability of fisheries, and the SDGs. Its implementation has been extended until 30 June 2023, or until the entry into force (or the provisional application) of the new Partnership Agreement being negotiated since 2018 between the OACPS and the EU Members (Carbone, 2021). The new Partnership agreement includes three action-oriented Regional Protocols for Africa, the Caribbean and the Pacific, negotiated with each region to tailor its provisions to the region's needs.

The United States of America (USA)

The USA has long been an active actor in distant waters, fishing tuna mainly off the US coast in the Eastern Pacific, before expanding into the West Central Pacific in order to capitalize on the region's vast tuna fisheries to feed the expanding US tuna canning industry. For decades, the USA has been receptive to cooperative access agreements that complied with US legislation regulating transboundary fisheries.

Negotiations of access agreements with various Pacific Island Countries (PICs) started in the early 1980's leading to the South Pacific Tuna Treaty[45], an international agreement between the American Navy, the US Department of State, and members of the Pacific Islands Forum Fisheries Agency (FFA). Since then, American-flagged vessels have 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 US government and shared between the Pacific Island Parties.[46]

Since 2007, PICs, in particular those simultaneously Parties to the Nauru Agreement (PNA), adopted a compensation scheme based on the fishing effort (number of fishing days), the vessel days scheme (VDS). The fundamental concept of the PNA purse seine VDS is that by limiting access to the fishery, its value will increase. It is now a successful access and management instrument for the West Central Pacific Ocean purse seine fishery, resulting in substantial gains in fishing access revenue for PNA Members from over US$ 60 million in 2007 to over US$ 500 million in 2019.[47]

Due to the introduction of the VDS, the South Pacific Tuna Treaty was renewed for the period 2017 – 2022 under different terms and conditions. It maintained the annual payment from the US Government at US$ 21 million, as an integral part of the US diplomatic engagement in the region, but adopted a new scheme defining the distribution and cost of vessel days. The pre-2013 Treaty permitted the American fleet to fish across the region without restriction. Under the 2017-2022 arrangement, the American fleet was allowed to acquire up to a predetermined number of fishing days at a predetermined price. In addition, the Treaty allocated fishing days to specific geographic areas arranged by EEZ or group of EEZs, as opposed to utilizing fishing days throughout the entire region. The vessel day rate was set at US$ 12 500 per day for the first

[45] Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States of America (the "South Pacific Tuna Treaty"), 1987.

[46] Yeeting et al., 2018; FAO, 2022.

[47] FAO, 2022.

two years (2017 and 2018) and increased to US$ 13 500 per day for years 3 and 4 (2019 and 2020). Further on, the American fleet was required to comply with the national laws of each Pacific Island Party, whereas the Treaty formerly provided the overarching legal and operational structure.

In 2022, the US Government announced plans to triple support to the Pacific Island countries with a view to combat IUU fishing, enhance maritime security and mitigate against climate change. In 2023, a bill was introduced to codify changes introduced in 2016 at the level of the South Pacific Tuna Treaty into the US domestic legislation.[48]

Japan

Japan has a long and diverse history of DWF, with early DWF for tuna initiated in the 1910s, followed by the creation of commercial fishing bases in Southeast Asia to supply regional and local markets. By the late 1930s, investment in new vessels allowed Japanese firms to land fish caught in Southeast Asian waters directly in Japan and Taiwan Province of China. This was followed by a strong geographic expansion of Japan's tuna fishing, with extensive government support, through a DW incentive scheme and fiscal subsidy policy that enabled mechanization of the fleet with engines, refrigeration equipment, and radios. As a result, Japan was the world's largest industrial fishing nation by 1954, harvesting fishing grounds in the Pacific, Atlantic and Indian Oceans.[49]

Since then, DWF by Japanese fleet and IFAAs have evolved to adapt to developments at the international, regional and national levels. The majority of Japanese DWF vessels continue to target tuna. They comprise long liners and pole and line vessels which selectively target yellowfin, bigeye and bluefin tunas and swordfish, and purse seiners fishing skipjack tuna. Unlike the EU and US agreements, IFAAs with coastal states are not negotiated by the government of Japan. Typically, industry associations support vessel owners by leading the negotiation, together with a government official, including the possibility of involving multiple coastal states simultaneously to leverage gains. A private fishing company can also directly negotiate a fishing license with a coastal state. The negotiation strategy of Japan's tuna fleet would typically consist of all three tuna industry associations reaching an agreement together, maximizing their collective power and supplemented by tied official development assistance.[50]

The compensation comprises a registration fee to access the coastal state's EEZ and a percentage of the value of the catch, typically around 5%. The price is determined as the landing price in Japan, according to published market data. The Japanese fleet primarily returns to Japanese ports, not relying on overseas transshipment. The additional costs of returning to Japanese ports to unload are partly offset by access to better maintenance and repair facilities. Japanese firms have experienced only very uneven success in establishing joint ventures in Africa or the Pacific. While the compensation system, in theory, reflects the market price of the catch, it relies on the reporting of its geographical origin, which may not always be accurate. In addition, since it is not based on a predetermined figure, the resource holding country may find it difficult to budget on this revenue.[51]

Unlike the EU and US agreements, the financial compensation agreed on between both parties is not made public. The Ministry of Agriculture, Forestry and Fisheries (MAFF) of Japan usually provides financial support to the industry

[48] https://www.congress.gov/bill/118th-congress/house-bill/1792/text?s=1&r=29.
[49] Bofil et al., 1998.
[50] Mwikya, 2006; FAO, 2022.
[51] Mwikya, 2006.

associations. It maintains strict control of distant-water operations through a long-standing policy of capping distant-water vessel numbers and providing the public information on its access arrangements on a country-by-country basis. Japan's access agreements are often coupled with official development assistance, including government support loans to Japanese firms to operate in distant waters, including local firms. The MAFF-funded Overseas Fishery Cooperation Foundation provides financial and technical support only to coastal states with which Japan has DWF access agreements. The support mechanisms include zero and low-interest loans.

In 2020, Japan had 13 active access arrangements in place, including:

- 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 Japanese private organisation 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 and bonito longline and purse-seine fishing 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).

Two examples of early second-generation access arrangements are Japanese multinational firm joint ventures with the governments of Fiji and the Solomon Islands, creating tuna canning industry in both countries. Although this initiative was initially driven by the need to secure strategic access to tuna resources, the rationale for these investments strengthened when the EU granted duty-free access to the EU market for the OACPS, offering considerable savings for production within the structures of these two island economies.

China

A relative latecomer to DWF, China began overseas fishing in 1985 with 13 vessels fishing off the coast of West Africa. Since then, the Chinese DWF fleet has grown rapidly to become the largest in the world. Different from other DWF nations, China was not a maritime empire in the twentieth century and has a comparatively modest EEZ. In addition, the developments of its DWF fleet took place in an era of institutionalization of EEZs.

According to recent research, Chinese DWF represents 28% of the global total, with almost 17'000 vessels spanning the global ocean, of which 90% flying the Chinese flag.[52] This data significantly differs from all previous estimates which were 1/8 to 1/5 of this number. The discrepancy has been attributed in part to the fact that China has claims over contested maritime territories where fishing vessels are not regarded by the Chinese authorities as DWFs.

The development of the Chinese DWF fleet was driven by dwindling fisheries resources in China's coastal and offshore fisheries. As a result, China sought to increase fish production through aquaculture development and by redeploying fishing fleets into foreign waters as part of a broad DWF expansion strategy. In addition, the development of Chinese DWF was considered highly strategic to supply domestic market and the fish processing industry which creates employment and hard currency earnings through export and re-export.

[52] Yozell and Shaver, 2019; Gutiérrez et al., 2020.

To this end, the Chinese government implemented measures to enhance the fishing capacity of its fleet by providing subsidies and low interest loans, fiscal incentives and tax deduction. These measures were topped by regional governments to ensure that a high percentage of DWF catch is shipped back to China. The Chinese government also continued to support the exploration of new fishing grounds, the development of new markets by strengthening country-to-country collaborations and joining RFMOs, enabling China to participate in international decision-making fora for fisheries.

Since the early 2000s, all successive national development plans have prioritized the expansion of DWF fleet. The thirteenth five-year plan for 2016–2020 reinforced this policy, emphasizing the expansion of high seas fishing and the processing of DW fish. The fourteenth five-year plan (2021–25) places a priority on innovation and value addition, while continuing support to China's DWF. As a result, China has developed various domestic fishery logistics and processing centres for innovation and value addition, relying on raw materials supplied by its DWF fleet.

Under the umbrella of the 2013 Chinese fisheries law, the 2020 regulations on the management of ocean fisheries set out the control framework within which Chinese fishing firms can undertake DWF.[53] The Bureau of Fisheries of the Ministry of Agriculture and Rural Affairs (MARA) has ultimate management and control over China's DWF. The China Overseas Fisheries Association (COFA) serves as a liaison between the Government and fishing firms engaged in DWF and monitors the Chinese measures regulating the operations of DWF. COFA is a society consisting of DWF companies, institutions, economic cooperative organisations and related practitioners engaging in DWF. It was commissioned by MARA to carry out the actual monitoring of DWF vessel activities. In this capacity, COFA runs a VMS centre for all DWFs flying the Chinese flag, assists in international disputes to support diplomatic resolution, controls fishing quota allocations, represents companies during the fisheries access negotiations and attends RFMO meetings.[54]

DWF vessels can be entirely or substantially owned by large state-owned firms either at the national, provincial or city level. Most are typically involved in multiple ocean regions and fisheries. In recent years, some of the state-owned firms have created stock listed firms in which the state-owned firms retain a large controlling interest. Other types of DWF firms are either completely privately owned or stock listed firms. The largest Chinese firms that are engaged in DWF have significant investments in other fishing sectors as well, either directly or through networks of sister firms.[55]

In theory, all Chinese DWF firms must undergo an annual review to ensure compliance with government regulations and the management measures of RFMOs. In practice, the review focusses mostly on small DWF firms. Such close supervision is not considered as necessary for the large state-owned firms and private firms engaged in capital intensive fisheries. A 2013 policy requires DWF vessels to register annually, qualify as DWF vessels, and make a significant bond deposit (US$ 5 million) which forced many small firms to merge, pool their resources and cease to operate independently. This requirement makes government oversight more effective because even if only one vessel in the group contravened the law, all vessels in the group are forced to stop operations until an investigation is completed. In parallel, the government encouraged mergers and acquisition of DWF companies into larger enterprises,

[53] https://www.fao.org/faolex/results/details/en/c/LEX-FAOC023913/.

[54] EFJ, 2022.

[55] Havice et al., 2019.

to extend the production value chain, and to invest in offshore fishing bases and harbours in coastal states. There is an increasing number of fishing projects investing in the development of coastal states' infrastructure – such as harbours – to gain fishing access, instead of the traditional route of purchasing a fishing license. This is likely to be driven by policy change in both China and the coastal states.[56]

The Government of China uses a strategy of official development assistance to leverage fisheries access for its DWF fleet, including support of overseas bases. This is further facilitated by the fact that China has become a major creditor of developing countries. Since the 2008 global financial crisis, Chinese state loans to developing countries increased from about US$ 30 billion in 2008, to about US$ 350 billion by 2017, surpassing the value of loans provided by the World Bank.[57]

Recent studies consider that the ever-changing methods of illegal and unsustainable practices challenge seriously the effectiveness of the current Chinese DWF law and policies.[58] While acknowledging the government's willingness to regulate the industry and to align national regulations with international conservation and management measures, the studies consider it necessary to enhance further these policies to address the lack of transparency in the terms of fishing agreements, vessel registry, vessels' compliance history, and the lack of a general framework to regulate fishing access agreements, whether in terms of sustainability, treatment of crew or combatting IUU fishing through MCS and law enforcement. Likewise, the inspection of many foreign-flagged Chinese-owned vessels operating at-sea should be addressed by expanding technical support in capacity-building for fishery enforcement in the coastal states.

Republic of Korea

DWF of the Republic of Korea began in the Indian Ocean with one vessel in 1957, before expanding to the Pacific and the Atlantic Oceans. The fleet, formed as an export-oriented sector to supply the Japanese market, expanded over time with financial support from Japanese trade firms and from the government up to 2000. The combination of foreign funding and internal support enabled the Republic of Korea to become one of the world's leading DWFNs, directly competing with Japanese vessels. It reached its highest catch in the early 1990s before the number of vessels decreased significantly from over 800 in the 1970s to 205 in 2019. The Korean DWF fleet were known to operate in the 2010s in the EEZ of the Russian Federation and several PICs (Solomon Islands, Kiribati, Tuvalu, Nauru, the Federated States of Micronesia) in the Pacific Ocean, Angola, Namibia, the Falkland Islands (Malvinas), Gabon, Guinea, Guinea-Bissau, Sierra Leone, Suriname in the Atlantic Ocean and Madagascar, Mauritius, and Seychelles in the Indian Ocean. The DWF fleet was operated in 2019 from 21 foreign bases in 17 coastal states of the Pacific, Atlantic and Indian Oceans.

The Distant Water Fisheries Development Act of 2008[59] established the Korea Overseas Fisheries Association (KOFA) as a special legal entity to support industrial development and to represent the country's DWF fleet. Differently from COFA in China, the Korean KOFA does not carry out government functions such as vessel monitoring, nor does its board include government employees. KOFA also receives funding from the Ministry of Oceans and Fisheries.

[56] FAO, 2022.
[57] Horn et al., 2020.
[58] Gutierrez et al., 2020; EFJ, 2022.
[59] https://faolex.fao.org/docs/pdf/kor160014.pdf.

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 Distant Water Fisheries Development Act requires joint ventures that operate vessels in DW to file a report with the Ministry of Oceans and Fisheries. The Ministry has not yet published a list of permitted Korean-flagged vessels.

In 2013, Korea was severely criticized by the international community for its opacity and the link of its DWF fleet to IUU activities, leading to the issuing of an EU yellow card for Korea. The card was lifted in 2015 following the country's efforts to bring its legal and administrative systems in line with international standards. Likewise, the US had blacklisted Korea as a country that had failed to sufficiently combat known IUU incidents when two vessels flagged to South Korea were found to violate rules of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The blacklisting ended in 2015 after Korea revised its fisheries regulations and implemented measures to ensure that fish originating from its DWF fleet were not linked to IUU fishing.

Taiwan Province of China

A significant industrial fishing port in the 1930s, Taiwan Province of China saw its DW tuna fleet develop starting in the middle of the 1960s, mostly as an export-focused sector. Fisheries access agreements are a significant component of Taiwan Province of China's foreign policy. Currently, it engages in international fisheries relations under a unique status known as a fishing entity, as opposed to a state. As of 2021, some 1080 Taiwanese tuna vessels were authorized to fish in the Pacific, Atlantic, and Indian Oceans, in addition to some 100 squid and saury vessels operating in the Atlantic and Pacific.[60]

Individual industry associations handle most of the negotiations of fisheries access agreements with coastal states, with assistance from the Center for Organic Food Development, a private non-profit organization that is financially supported by the Government. The Center's board of directors includes representatives from industry associations for various types of fisheries as well as individuals appointed by the Government, with the chair and vicechair being government officials. Several Taiwanese DWF industry associations act as a conduit of information between vessel owners and the Government. These include the Taiwan Tuna Purse Seiners Association, the distant water Taiwanese Tuna Association and the Taiwan Tuna Longline Association. In addition, fishing firms of Taiwan Province of China operate vessels under chartering agreements or FoC to gain access to DWs. Taiwan Province of China still has one of the highest numbers of FoC vessels.

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 FoC must first receive government authorization. Since 2020, the DWF licensed vessel list (including chartered vessels) and the FoC vessel list 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 authorized to operate. The access arrangements of Taiwan Province of China are first-generation arrangements, the Government does not proactively seek measures to enhance fisheries access for the industry, apart from the occasional provision of some funds to

[60] FAO, 2022.

PICs for MCS, technology transfer, and support for the fisheries sector. In general, the aid of Taiwan Province of China is geared to reinforce its broader foreign policy and strengthen relations with its diplomatic allies who are the principal recipients of Taiwanese aid. Compared to the official development assistance of China, 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.

Overview of major resource holders and their approaches

International fisheries access agreements comprise few reciprocal IFAAs involving resource sharing and management, often between developed fishing nations, and many non-reciprocal arrangements whereby a developing coastal state is the resource holder and a developed fishing nation from Asia, North America, the Russian Federation or Europe is the resource seeker. These fisheries access arrangements take place in the Pacific, Atlantic and Indian ocean (Table 3). This report provides an overview of the important coastal states involved in these IFAAs in the subsequent sections.

Africa

DWF nations from Western Europe, the Russian Federation/former Soviet Union and Asia have fished in African EEZs for decades, using various types of fisheries access arrangements. Most of these DWF fleets target small pelagic, tuna, shrimp or demersal finfish species. Their access arrangements with coastal states are country-specific, reflecting historical linkages, geo-political and economic interactions.

EEZs of African states are targeted by the top five DWF nations (China, Taiwan Province of China, Japan, South Korea and Spain). They include all African coastal and West Indian island countries, from Morocco to Namibia in West Africa, from Somalia to Mozambique in East Africa and several island states in the Indian Ocean. Ten of these countries have had recent fishing agreements with DWF fleets. These are Mauritania, Guinea Bissau, Guinea, Sierra Leone, Congo, Angola, Mozambique, Madagascar, Mauritius and Seychelles.[61]

West Africa

On the African coast of the Atlantic Ocean, IFAAs involve West African countries from Morocco to Namibia, many regulated by national laws enacted in the mid-1990s, requesting all foreign vessels to purchase a license to access fish resources in their EEZ and to fish in accordance with applicable national regulations. As a result, legal access to African fisheries is regulated by:

- bilateral agreements between the host government and either the EU through SFPAs (see section 3.4.1) or other DWF nations;
- firm-to-government first-generation access agreements with predetermined flat prices for licenses based on the type of vessel/fishery; or
- firm-to-government second generation agreements which are often based on joint ventures. These second-generation agreements generally involve either the charter or the (temporary) transfer of DWF vessels to the African coastal state, which in principle translates into reflagging DWF fleets to the host country. For example, most of the Mauritanian industrial fleet consists of Chinese-Mauritanian joint ventures, and the Senegalese industrial fleet consists largely of EU reflagged vessels (Table 3).[62]

[61] Yozell and Shaver, 2019.
[62] FAO, 2022.

Table 3.
Main fisheries resource holders, their DWF nations and species targeted

Resource holder	DWF nation/fleet	Targeted fish species
Africa		
West Africa	EU, Japan, South Korea, Taiwan Province of China, Russian Federation	Small pelagic, crustaceans, cephalopods, tuna and allied species
East Africa and West Indian Ocean	EU, Japan, South Korea, Taiwan Province of China, Russian Federation	Small pelagic, crustaceans, cephalopods, tuna and allied species
Pacific islands countries		
Independent Pacific Island Countries	USA, EU, Japan, South Korea, Taiwan Province of China	Mainly tuna and allied species
Asia		
China South Sea	Japan, South Korea, Taiwan Province of China	
Myanmar	Thailand, Japan	Mainly tuna and allied species
India	Japan, USA	Prawns, tuna and allied species, deep sea fish and shrimp
Latin America		
IATTC	Japan, South Korea, Taiwan Province of China, China, USA,	Tuna and allied species
Argentina	EU (mainly Spain), Japan	Cephalopods, mainly squid, Hake

Fishing vessels, mostly trawlers from China, Spain, Japan and South Korea fish off the Western coast of Africa, with the top five coastal countries targeted, including Guinea Bissau, Mauritania, Angola, the Republic of Congo, and Sierra Leone. The Chinese and EU fleets are involved in a large number of joint ventures with most of the West African countries, in particular Guinea Bissau, Guinea, Sierra Leone, Gabon, Angola and Namibia. In Morocco, Mauritania and Guinea-Bissau, the EU trawlers operate also under access agreements established with governments. For many years, DWF fleets were mainly from Europe until recent years when Chinese vessels have started to dominate trawling in the region. Ten percent of the Chinese fleet is flagged to a foreign country. Of these, over 55% were registered in African nations. The vast majority of them (93%) fly the flags of Morocco, Mauritania, Senegal, Cote d'Ivoire, Guinea, Ghana, Sierra Leone, Gabon, Mozambique and Madagascar. Liberia represented 5.4% of the FoC favored by Chinese DWF vessels.

Except for the SFPAs with the EU, information is inaccessible on most fisheries access agreements in West Africa regarding their negotiation, modalities of compensation and their use to support fisheries conservation and management measures. Furthermore, and except for rare cases, DWF trawlers operating within the EEZs of African states bordering the Atlantic Ocean have been reported to have negative environmental and social impacts and a history of non-compliance with coastal state regulations. Several case studies suggest that these arrangements have been economically suboptimal for African coastal states, causing conflicts with domestic small-scale fishers (SSF) and leading to cases of violence in West Africa.[63] Several studies[64] argue that many of the second-generation access

[63] FAO, 2022.

[64] Belhabib et al., 2015; Belhabib et al., 2019 ; Daniels et al., 2016.

arrangements are based on bogus joint ventures, with an African national partner in the joint venture being merely a figurehead employed to register the foreign vessel locally, hence granting access to the country's marine fisheries. With rare exceptions, second-generation arrangements are opaque and may conceal irresponsible practices that permit joint venture vessels to fish without respecting national management and conservation measures, endangering the existence of local SSF communities. The risk to this is greater when the coastal states do not have the capacity to police their waters and enforce national rules and regulations.

East Africa and West Indian Ocean

East African and island states fishing in the Indian Ocean are Somalia, Kenya, Tanzania, Mozambique, Madagascar, Comoros, Seychelles and Mauritius. In the EEZs of these countries, DWF fleet target some demersal finfish and crustaceans, but mostly large pelagic, in particular tunas. The offshore waters of the Indian Ocean are the second largest region for tuna fishing, home to 19% of the world tuna production. Around 400 to 500 vessels from Asia (China, Taiwan Province of China, South Korea) and Europe (Spain, France, Portugal, Italy) track and catch tuna under various agreements with the coastal and island states.[65] They are mostly purse seiners, longliners and a few pole and line vessels. EU flagged vessels harvest around 57% of the catch fished by purse seiners and only 7% of the longliners' catch, mainly skipjack and yellowfin, with some bigeye and albacore tuna. Purse seiners rely heavily on fish aggregating devices (FADs) and mainly operate from and unload in Port Victoria in the Seychelles. There are some 400 longliners flagged mainly to China and Taiwan Province of China, targeting bigeye and yellowfin tuna, swordfish and sharks. Their main operational port is Port Louis, Mauritius.

The EU has active SFPAs in the region with Seychelles, Mauritius and Madagascar.[66] For various reasons, agreements with the other countries have been on standby for some time now. Because of IUU fishing suspicion, no EU-flagged vessel is authorized to fish off the coast of Comoros. Likewise, EU vessels do not fish in Somalian EEZ because of safety and security risks and piracy threats. The piracy threat has also discouraged vessels to take advantage of the fishing licenses offered by Kenya. To increase transparency and to support the capacity of coastal states to efficiently manage fisheries and undertake conservation measures, researchers have recommended improvements in catch reporting to coastal states by EU vessels.[67]

Reliable information on the access arrangements of the other DWF fleet to African and island states in the Indian Ocean is very limited. Research shows that recent policy shifts by Kenya, Tanzania and Mozambique have led to significant increases in license fees,[68] encouraging foreign vessels to pursue charter agreements and joint-venture agreements with national counterparts. The aim of the policy shift is to encourage the development of the domestic fishery sector, including vessels, knowledge transfer, processing facilities and port infrastructure to rival others in the region, in particular in Mauritius and Seychelles, and to ensure that their economies capture the maximum value from their fisheries.

With 2,700 km, Mozambique's coast is the third longest in Africa. Its fisheries resources are rich – with species ranging from pelagic and demersal fish to shrimp, other crustaceans, and tuna. DWF vessels from Japan, Taiwan Province of China, South Korea, China, Portugal, Spain, and Russia

[65] *Ibid*.
[66] *Ibid*.
[67] *Ibid*.
[68] *Ibid*.

operate in Mozambican waters. Many of the vessels are longliners from Japan, South Korea, and Taiwan Province of China, while the remaining are a few trawlers from China, and just two from Portugal and Russia. Bilateral or first-generation fishing agreements are prevalent.

In 2019, Mozambique enacted a national sea policy and strategy, increasing the DWF license fee from US$ 35,000 to US$ 200,000 and encouraging foreign vessels to pursue charter agreements and joint-venture agreements with Mozambican counterparts. These types of agreements existed prior to 2018 but were not as widely used as traditional access agreements. The aim of the new policy is to encourage development of the domestic fishery sector, including vessels, knowledge transfer, processing facilities and port infrastructure.

Increasing compliance and enforcement is central to the new policy for improving fisheries management in Mozambique. In the past decade, the Government displayed strong commitment to addressing these challenges: acceding to the PSMA, engaging regionally in the development of the MCS Center coordinated by the Southern African Development Community (SADC), working bilaterally and multilaterally with neighbors to conduct joint patrols; and passing strong fisheries management rules. Resilience and consistent determination in political will is required to move forward. Improving transparency in the industry, including making access agreements publicly available and requiring VMS to be turned on at all times, complemented with increased capacity to monitor and take action against perpetrators, is critical to ensure the longevity of Mozambique's fisheries.

The field work in Seychelles and Mozambique confirmed that profitability is central to the decision-making process of DWF vessels, with the least compliant DWF vessels attracted to coastal countries that have low capacities to monitor and enforce their fisheries regulations. It highlighted that fisheries resources are being overexploited both by domestic and foreign fishermen, often to the detriment of local communities and economies, and the capacity to address these concerns needs to increase to ensure long-term sustainability for fisheries resources.[69]

Examples of success stories from Africa

Deep sea water shrimp of Senegal

In Senegal, deep water shrimp fishery has been recognized for its evidence- and science-based management plan involving the different stakeholders from industry and research. Policy reform has started with the design and implementation of a fishery management plan for the fishery using a participative process to prepare a strategy and to revise the institutional framework for its management with a focus on the biological and economic criteria for the resource. A Public-Private Partnership was established to define the rights and responsibilities of each party, including issues of generating resource rents and sharing costs and benefits between the Senegalese Government and the private sector. The management plan introduced a quota system in 2015, with stringent monitoring and the implementation of best practices such as biological rest periods, selectivity tests, dependable data gathering, and systematic sampling. This allowed the firms to increase their catch values.[70]

FAO highlights the exploitation of deep-water shrimp in Senegal as a successful model for involving foreign operators in developing coastal country fisheries.[71] The operations are run by six vessels of a Senegalese cooperative of deep-water shrimp operators, five of which are majority-owned by international investors. The operation adheres

[69] Yozell and Shaver, 2019.
[70] Diedhiou et al., 2019.
[71] FAO, 2022.

to the national management plan for deep-water shrimp fishery, with annual reporting on implementation. Regarding access fees, 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 due to the low number of operators and little interference with small scale fisheries in Senegal.

Namibia

Namibia, which gained independence only in 1990, is a unique success story for fisheries management in Africa, including the management of the DWF fleet. Early on, Namibia adopted a catch-share system comparable to the quota-based systems implemented in New Zealand and Iceland, aiming to restore the fish stocks depleted by decades of DWF fleet. Differently from other West African countries, Namibia does not have a SSF sector, except for a few isolated fishing settlements operating in the North of the country. First, Namibia restricted significantly foreign fishing authorizations. This was followed by the introduction of total allowable catch limits for its primary commercial fisheries, namely hake, horse mackerel, pilchards, lobsters, and deep-sea crab.[72]

The Namibian fisheries management policy aimed to increase the proportion of commercial fisheries controlled and owned by Namibians, job creation, government revenue and the economic benefits extracted from fishing. To this end, Namibia enacted legislation that promotes Namibian majority shareholding in fishing firms, prioritizing commercial fishing that utilizes national ports.[73] DWF access to small-pelagic fisheries required local landings, and access to the hake fishery privileged vessels that land fresh fish for further processing in Namibia, instead of the freezer trawler segment, which freezes catches on board for direct export.

The Namibian approach to catch shares used a competitive quota distribution system that grants quotas according to each applicant's contribution to the country's economic and social development. Foreign bidders are permitted to purchase quotas, but preference is given to national citizens and applicants who demonstrate a commitment to social empowerment. In addition to the quota fees paid by fishing companies, Namibia also charges fees to support fisheries research and an industry-wide on-board overseer program. As a result, Namibia is one of the few nations where direct income from commercial fisheries covered the cost of fisheries management and enforcement.

The allocation of quotas to rights holders is the responsibility of the Minister of Fisheries, under the following regulations and principles:

- The cost of quotas is as much as twice lower for firms that are wholly or primarily held by Namibian citizens;
- Quotas allotted to firms with full or majority national ownership are generally issued for 15 years. The duration for foreign firms is seven years, except if they invest substantially in Namibian fisheries which qualifies them for 15-year quotas;
- 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;
- 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 will be awarded allocations.

[72] FAO, 2022.

[73] https://www.fao.org/faolex/results/details/en/c/LEX-FAOC044344.

The Namibian fisheries management system, including its IFAAs, was widely praised. It gained further recognition following the Government commitment not to subsidize its fishing sector, to combat IUU fishing and to adequately fund its MCS operations. The hake industry of Namibia became the second African fishery to be certified by the Marine Stewardship Council (MSC) in 2020.

Unfortunately, these achievements have been eclipsed by a combination of rule misuses and loopholes, combined with illegal practices and governance gaps. As a result, the hake sector has remained under foreign control and rules due to deliberate use of joint ventures and subsidiaries to maintain set positions. For instance, quotas provided to Namibian citizens are reportedly resold or sub-leased to foreign fishing firms and the procedure of assigning quotas to rights holders has been opaque. There are also suspicions of misuse of total allowable catch allocations.[74]

Seychelles

Seychelles represents another successful example in African fisheries management. Situated within the rich tuna fishery of the Indian Ocean, Seychelles has significantly developed its fisheries sector as an important component of its national economy, representing 8 to 20% of the national GDP and employing nearly 17% of total work force. Export of seafood represents an estimated 90% of total exports of goods from the country, and the capital Victoria is home to one of the world's largest tuna canning facility, which processes 80% of all tuna caught in the Indian Ocean.[75]

The Seychelles Fishing Authority is responsible for fisheries management in conjunction with the Seychelles Coast Guard. Working directly with foreign fishing vessels, the Government negotiates access rights to its EEZ waters, often with no quotas associated with the agreements, and uses flat license fees and fines when there are infractions. DWF longline vessels and purse seiners from Taiwan, China, EU and South Korea operate in Seychelles, with a smaller number of vessels flagged from France, Italy, and Spain. In addition to the targeted species of high interest, the DWF fleet is attracted by the easy access to the processing factory and efficient turnaround times for vessels that visit the port to resupply or offload catch. While many foreign vessels are active in Seychelles, a significant number of joint-venture and charter vessels exist also. Out of 44 licensed purse seiners operating in Seychelles, 28 were French and Spanish, 13 were Seychelles-flagged joint ventures with a European company, and three were Mauritian-flagged joint ventures with a European company. In stark contrast to joint-ventures and charters executed in Mozambique, the engagement of foreign companies has been associated with positive externalities, such as investment in the longevity of their business operations in the country and avoidance of illegal practices.[76]

Pacific Islands

The Pacific Islands region consists of fourteen independent countries and eight territories stretched across the largest ocean in the world, the Pacific Ocean. Their populations rely heavily on living marine resources as a source of food and foreign currencies from fishing license fees and fish exports (Table 4).[77] The average consumption of fish in the region is about 50 kg per person per year, reaching as high as 250 kg per person per year in some atolls. Between 2015 and 2018, the average annual revenue from fishing licenses varied between US$ 7.1 million for Palau and US$ 134.3 million for

[74] FAO, 2022; Coetzee, 2021.
[75] Yozell and Shaver, 2019.
[76] *Ibid.*
[77] Indu, 2013, Gillett and Tauati, 2018; Bell et al., 2021.

Table 4.
Importance of fisheries for the Pacific Islands

	2021 Population	Land area (Km²)	2021 GDP (US$ million)	Catch (tonnes)	Government Revenue (US$ million)	2020 Fish consumption (kg/capita/year)
CI	17,564	237	252	11,080	126.1	N.A
FSM	584,914	701	440	178,587	150.6	47.38
Fiji	924,610	18,376	4,30	32,874	0.56	29.77
Kiribati	119,449	810	207	396,048	181.7	73.29
MI	59,190	180	259.50	37,003	66.1	N.A
Nauru	10,824	20	133.20	110,794	98.6	51.03
Palau	18,094	460	217.8	2,655	71.2	N.A
PNG	8,947,024	452,860	25,260	461,032	3,360.8	14.61
Samoa	218,774	2,984	843.84	9,176	0.56	47.63
SI	686,884	27,990	1,631	116,877	429	28.06
Tokelau	1,354	10	7.712	21,392	16	N.A
Tonga	106,016	696	469.23	1,165	0.63	N-A
Tuvalu	11,792	30	63.1	73,080	47.4	N.A
Vanuatu	319,137	12,189	956.3	55,932	1,759.1	28.99

CI: Cook Islands; FSM: Federated States of Micronesia; MI: Marshall Islands; PNG: Papua New Guinea: SI: Solomon Islands. Fisheries data are yearly averages over the period 2009-2018 for catch and 2015-2018 for revenue. N.A: Not available.

Papua New Guinea and represented from 9.3% (Palau) to 58.6% (Tuvalu equivalent to US$ 25.6) or 84.3% (Tokelau equivalent US$ 13.4 million) of the government revenue (Figure 8). It is worth mentioning that most of the Pacific Islands have small territorial areas (from 21 km² for Nauru to 463,306 km² for PNG) and populations (from 11.000 people for Nauru to 9 million people for PNG) (Table 4).

Pacific Fisheries comprise coastal resources which form the basis of most of the region's SSF, and oceanic resources which represent the basis of the region's industrial fisheries. Coastal resources include a wide range of finfish and invertebrates including crustaceans, shellfish and seaweed. Ocean resources include tunas, billfish and allied species, some of which are also harvested in coastal waters. Tuna is highly significant to the economy of Pacific Islands and the markets attracting international and regional attention toward its effective management and conservation efforts.[78]

The main categories of marine fishing in the area are:

- coastal fishing carried out close to the shore, divided into three categories:
  - subsistence fisheries, which support rural economies and are extremely important to the region's nutrition and food security;

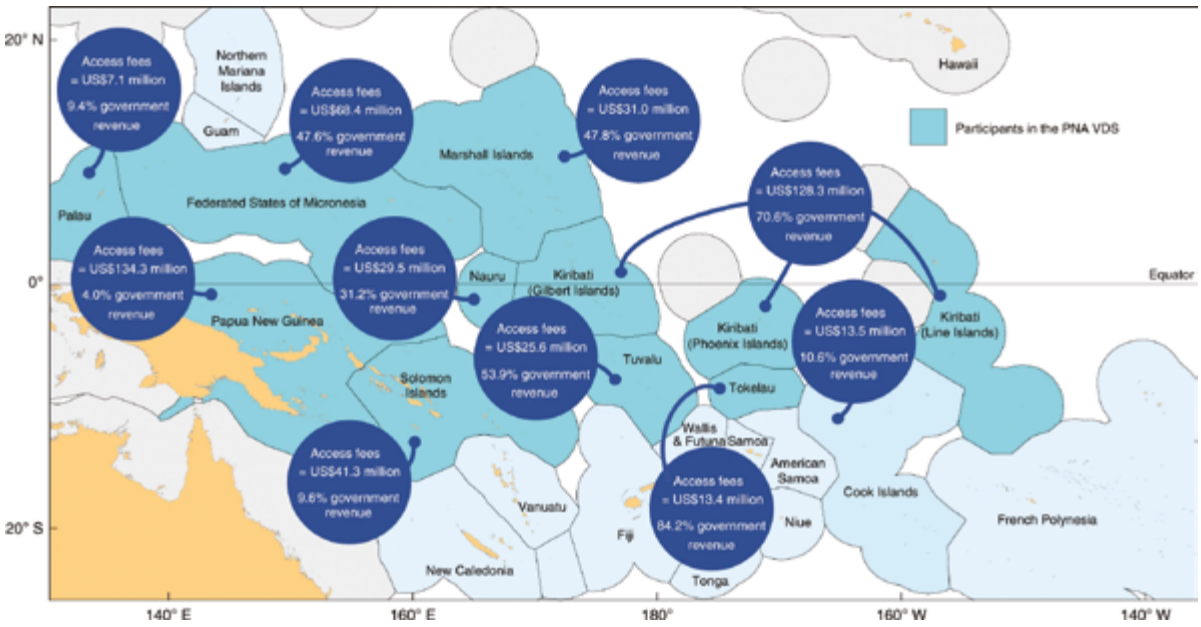
[78] Gillett and Tauati, 2018.

- small-scale commercial (also referred to as "artisanal") fisheries, used either to supply domestic markets, or for producing export commodities; and
- industrial-scale shrimp fisheries, which in the region occur only in Papua New Guinea.

- offshore fishing, undertaken mainly by large, industrial-scale fishing vessels using long-line, purse seine and pole-and-line gears. Approximately 1'100 such vessels operate in the EEZs of Pacific Island countries to fish mainly tuna. Offshore fishing in the region can be further sub-divided into:
  - Locally based offshore fishing undertaken by domestic fishing operators;
  - Foreign-based offshore fishing operating on the prerogative of coastal states. Most of these vessels originate from East Asia, Japan, Korea and the USA.

Compared to other fishing regions of the world, the area is characterized by the presence of strong regional organizations active in the fisheries sector (Table 5). As a result, fisheries resources of the Pacific Ocean are well studied in particular by the Oceanic Fisheries Programme (OFP) of the Pacific Community (SPC).[79] OFP supports its members with scientific services relating to oceanic fisheries management. These services comprise information (e.g. reports on the status of fisheries, stocks and ecosystems), infrastructure (e.g. databases, monitoring programmes), advice (e.g. on appropriate levels of fishing), and national capacity building. OFP work programme comprises stock assessment and modelling, oceanic fisheries data management, oceanic fisheries monitoring, and ecosystem monitoring and assessment. At a higher regional level, the Forum

Figure 8.
Economic benefits for Pacific Small Island Developing States



Source: Bell et al., 2021.

[79] http://www.spc.int/OceanFish/en/about-ofp/the-oceanic-fisheries-programme.

Fisheries Agency (FFA) produces several publications on the offshore fisheries of the region. Other agencies that support information collection and dissemination on the offshore resources and economics of the region are the Secretariat of the Pacific Regional Environment Programme (SPREP), the University of the South Pacific (USP), the pelagic fisheries research program of the university of Hawaii, the Pacific Islands regional office of the US national marine fisheries service, FAO, the Asian Development Bank, Japan's National Research Institute of far seas fisheries and several regional and international NGOs.

Table 5.
Main regional organisations supporting the development of fisheries of the Pacific Islands

Organisatio	Tasks
The Secretariat of the Pacific Community (SPC)	Assists its member countries and territories in matters relating to (a) coastal fisheries development and management, and (b) scientific research and compilation of catch data on the tuna resources of the region.
The Forum Fisheries Agency (FFA)	Assists its member countries in matters relating to the management of the region's tuna resources, including economics, surveillance and legal aspects. Produces several publications related to the offshore fisheries of the region. These include trade and industry news, economic and development indicators and statistics, and the tuna fishery report card.
Parties to the Nauru Agreement (PNA)	Implements the vessel days scheme (VDS) in the eight Pacific Island countries where much of the tuna resources of the region are located.
The Western and Central Pacific Fisheries Commission (WCPFC)	Plays a central role in fisheries management in the region, and in neighboring regions, through its capacity as an RFMO to address issues in the management of fisheries for highly migratory species in the high seas.

As a result, the offshore Pacific fisheries benefit from wide and updated sources of data and science on which to base effective conservation and management measures at the national, regional and international levels. The offshore stocks are healthy and exploited within reasonable maximum sustainable yields (MSYs). In addition to the research capabilities and the commitment of the Pacific Islands Governments, another key reason for this success is the solidarity between these Governments and their communities. Through strong leadership, the countries have banded together to achieve an effective block, which was possible because the tuna resources of the WCPO are largely within their 200-mile zones, unlike in other regions of the world. Early on, all countries of the region agreed on the harmonized minimum terms and conditions (HMTCs) for foreign fishing vessel access (Table 6), which specify consistent conditions across the region for a good standing on the regional register of fishing vessels, transshipment, catch logbooks, VMS, vessel reporting and observers. The HMTCs apply to all foreign tuna fishing vessels seeking access to the EEZs of Pacific Island countries. Currently, the application of these HMTCs is both widespread and comprehensive by Pacific Island countries in areas under their respective national jurisdictions.
The application of this non-negotiable policy by all Pacific Island countries in their dealing with DWF entities has resulted in significant mutual and shared benefits over the years.

Table 6.
Guidance to the Pacific Island countries under the HMTCs for foreign fishing vessel access

Harmonized minimum terms and conditions

- Use of a common regional license form
- Vessels in "good standing" on the Regional Register of Foreign Fishing Vessels and VMSs
- Register of Foreign Fishing Vessels as a condition of licensing
- Monitoring and control of transshipment
- Maintenance and submission of prescribed forms reporting all catch and by-catch taken in EEZs and on the high seas
- Vessel reporting requirements
- Observers and observer coverage
- Appointment of an agent in the relevant Pacific Island licensing country
- Requirements for foreign fishing vessels to stow gear when transiting fisheries zones
- Application of HMTC in port and exercise of port State authority
- Enforcement cooperation
- Flag State or Fishermen's Associations' responsibility
- Requirement to implement the regional Vessel Monitoring System
- Identification of fish aggregating devices
- Pre-fishing inspections

The most praised achievement in the region is the 2007 VDS for jointly managing the purse-seine fishery targeting skipjack tuna within the combined EEZs of the PNA countries, namely Federated States of Micronesia, Kiribati, Marshall Islands, Nauru, Palau, PNG, Solomon Islands and Tuvalu, in addition to Tokelau which participates in the VDS under a memorandum of understanding (MoU) with the PNA.[80] The VDS has enabled transitioning from granting access to a total number of purse-seine vessels in the region (205) to permitting a total allowable number of purse-seine fishing days (45'000 in 2018) and allocating these days to individual PNA members on the basis of their individual EEZ areas and their fishing effort history over the past 8–10 years.

Given the volume, value and multi-jurisdictional nature of the fishery, it is arguably the most complex fishery management arrangement ever put in place. By creating competition for a limited number of days, VDS increased the value of each fishing day from roughly US$ 1'350 to about US$ 5'000 in 2011, about US$ 6'000 in 2013 and over US$ 12'000 in 2018. The VDS has already increased revenue to the Pacific Islands from the purse-seine fishery more than eight-fold, from US$ 60 million in 2007 to over US$ 500 million in 2019.[81] Another benefit is that the VDS moves fisheries management in the region to a desirable rights-based system. This means that fishing rights (such as vessel fishing days) can be defined, allocated and traded. By limiting the rights (e.g. a cap on vessel days), scarcity is created and value increased. Consistent with this transition to a rights-based approach, a VDS-style arrangement for management of the tropical longline fishery is being implemented. The VDS provides a trading mechanism among PNA members, allowing them to respond to the profound effects of the environment on the fishing grounds for skipjack tuna. During La Niña events, the best catches of skipjack tuna are made in the West of the region,

[80] Indu, 2013, Gillett and Tauati, 2018; Bell et al., 2021.
[81] FAO, 2021.

whereas during El Niño events fishing is most efficient up to 4,000 km to the East. During La Niña events, the VDS enables countries in the East to buy fishing days from members in the West. The reverse occurs during El Niño events. Therefore, regardless of where the tuna are caught, all PNA members receive access fees every year. In this way, the VDS evens out the previously high interannual variability in access fees received by PNA members and helps stabilize government revenue for tuna-dependent economies.[82]

Today, while all Pacific Island countries continue to collect access fees for foreign fishing in their waters, most have aspirations to develop their own fishing or processing industries. The various considerations and trade-offs involved in balancing these two opportunities have been a major issue in the region for many years. Currently access fees are at an all-time high, assisted by the introduction of the VDS. Domestic tuna industry development is also advancing, judging by employment creation related to the tuna industry – with jobs increasing from about 8 000 in 2002 to about 23 000 in 2015.[83] Much of this industry development came about by using access to tuna resources to leverage fishing and processing companies to base locally.

In the balancing of benefits from access fees and from domestic industry development, every country of the region is different in terms of resource endowment, capabilities, past experience, political will and development aspirations. However, there are some common issues for countries:

- Comparing dissimilar benefits is difficult. For example, how can a cash contribution through access fees (relatively easy to calculate) be compared to the creation of a certain number of tuna-related jobs (relatively complex) in terms of what is best for a country? Calculating and comparing opportunity costs is also difficult.
- In recent years, joint-venture fishing arrangements (i.e. local basing/flagging) have become popular, but there is growing concern about a lack of transparency, and whether real benefits flow to Pacific Island countries from these frequently complex arrangements.
- In some countries, development aspirations are not well thought out and/or effectively translated into government policies.
- Some of the government fisheries agencies have historically been involved in the generation of revenue from access fees and have been institutionally oriented towards that goal, whereas the promotion of domestic tuna industry development requires different skills, and success can be more intangible and difficult to measure.
- As the tuna industry has changed over the years, some governments have not kept abreast of new developments and technology and have pursued developmental plans that are outdated and/or impractical.[84]

Climate-driven redistribution of fisheries threatens to disrupt the economies of the PICs and sustainable management of the world's largest tuna fishery. It is estimated that by 2050, under a high greenhouse gas emissions scenario, the total biomass of three tuna species in the waters of ten Pacific SIDS could decline by an average of 1 to 3% (range=–5 to 20%) due to a greater proportion of fish in the high seas.[85] The potential implications for Pacific Island economies in 2050 include an average decline in purse-seine catch of 20% (range=–10 to 30%),

[82] Gillett and Tauati, 2018.
[83] *Ibid*.
[84] *Ibid*.
[85] Bell et al., 2021.

an average annual loss in regional tuna-fishing access fees of US$ 90 million (range = –US$ 40 million to US$ 140 million) and reductions in government revenue of up to 13% (range = –8 to 17%) for individual Pacific SIDS.

Redistribution of tuna under a lower-emissions scenario is projected to reduce the purse-seine catch from the waters of Pacific SIDS by an average of only 3% (range = –12 to +9%), indicating that even greater reductions in greenhouse gas emissions, in line with the Paris Agreement, would provide a pathway to sustainability for tuna-dependent Pacific Island economies. An additional pathway involves Pacific SIDS negotiating within the regional RFMOs to maintain the present-day benefits they receive from tuna, regardless of the effects of climate change on the distribution of the fish.[86]

Asia

In Asia, fisheries access arrangements involve fleets exploiting the East China Sea or the EEZ of Myanmar and India. Before building its own industrial fishing fleet, India has had foreign fleets fishing in its EEZ under various arrangements that evolved over the years and were mainly designed to support India to acquire know how, technology and land-based processing mainly for export.[87]

Currently, the East China Sea fisheries access arrangements are governed by the following four bilateral IFAAs:

- The Japan–Republic of Korea Fisheries Agreement (in force 1999). Annual consultations determine the access conditions to EEZs.
- The Japan–China Fishery Agreement (in force 2000). The Japan–China Joint Fisheries Committee governs relations, including annual discussions on access issues.
- Private Fisheries Agreement between Japan (Interchange Association of Japan) and Taiwan Province of China (Association of East Asian Relations of Taiwan). It is regulated by the Japan–Taiwan Fishery Committee.
- The China–Republic of Korea fisheries agreement (in force 2001). The Agreement 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 measures of fishery resources are determined by the Joint Fisheries Committees of the two partner governments. Any enforcement activities utilize flag state control systems. 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.[88]

For decades, Myanmar, Cambodia, and Viet Nam were accessed by trawlers, in particular from Thailand. In the late 1960s, the three countries restricted access to their waters by foreign vessels, creating conflicts and seizure of fishing vessels.[89] To prevent incursions into their EEZs, several governments in the region have strengthened their ability to patrol their EEZs, with Japanese fishing fleets providing a substantial support. In 1986, Myanmar approved a joint venture with a Japanese firm, enabling the country to significantly improve surveillance of its EEZ and landings in Ranong in Thailand. The Japanese firm

[86] Bell et al., 2021.
[87] FAO, 2022.
[88] *Ibid.*
[89] *Ibid.*

supplied the state-owned fishing industry with training, technology, equipment and refrigerated stores, patrol vessel and helicopters to deter IUU fishing. While some of the fish was sold in Myanmar, the fish of superior quality was sent to Japan.

Since then, access arrangements between Myanmar and Thailand have been influenced by broader politics and well-known domestic grievances. Foreign and domestic interests, as well as industrial and smaller-scale vessels, have fought over access. Most plans for implementing second-generation access arrangements to establish a local fishing and processing industry have failed. Broader changes in international relations between the two governments have regularly led to banning Thai trawlers, non-enforcement of MCS and poor enforcement of the annually determined closed season and the high prevalence of IUU fishing. Since the early 2010s, the policy of Myanmar to reduce the number of foreign vessels operating in its waters, and the 2014 policy of Thailand to apply stricter flag state controls to its fleet operating in ABNJs, has significantly reduced the number of foreign vessels operating in Myanmar (to only five).[90]

In India, foreign-flagged vessels have been present in the country's EEZ since the 1970s, fishing the waters between 12 and 200 nautical miles, targeting primarily prawns, tuna and tuna-like species, mainly for export markets. Access agreements in India have been shaped by the successive policies of its government addressing the admission of foreign vessels early on, followed by development policies for the construction of export and trade capabilities, and collaboration with donors and multilateral agencies to obtain technical and administrative knowledge.[91]

For research and surveying purposes, India has had a long history of importing foreign fishing vessels, whose designs were adapted to local requirements.

Domestic investors who entered the fishing sector in the first two decades following independence, mostly as financiers of mechanized fishing vessels and operators for export, played a key role in developing the national fishing capabilities. A thread that runs through the history of access agreements in India was 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 and engaged in direct action to influence, and at times disrupt, access arrangements in the Indian EEZ.[92]

As a result, the Central Government revoked in 2017 all access agreements in the Indian EEZ. The state policy now promotes indigenous deep-sea fishing (DSF) in order to exploit the species in the Indian EEZ below 500-metres and resources outside the Indian EEZ. 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, and Transfer model, a MoU 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 DSF vessels, the upgrade of harbours, and the establishment of seafood processing factories, with a total of 160'000 fishers as beneficiaries. This is a MoU with a regional government initiative, shifting away from the domestic firms that have been the primary operating entities in previous access agreements. 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

[90] FAO, 2022.
[91] Kurien, 1978.
[92] FAO, 2022.

presence of second-generation access agreements in India. Both options represent an industrial policy comparable to that of other nations supporting the connection between access and local development.

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 Inter-American Tropical Tuna Commission (IATTC). There is fishing activity in both national waters and the high seas. To access fishing in the IATTC region, longline vessels over 24 meters are required to register on the official regional vessel register.

In the 1990s, Argentina opened its EEZ fisheries to DWF fleets as a result of its broader policy change toward global economic integration and liberalization, which was fueled in part by structural adjustment. DWF fleets from Asia and the EU were granted access to the EEZ of Argentina, which led to a significant increase in fish extraction and export.

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 multiplied in the early 1990s. Although it is difficult to uncover the terms and circumstances of first-generation access agreements, it is estimated that each squid jigger vessel paid between US$ 150 000–200 000 per year, giving the Government of Argentina an annual income of approximately US$ 10 million. 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 the Overseas Fishery Cooperation Foundation (OFCF), a non-profit corporation that implements cooperative programs under general direction and with funding given by the Government of Japan.

The EU also entered Argentine waters in the early 1990s, establishing second-generation access agreements with Argentine corporations through joint ventures, especially targeting hake. The Argentine Fisheries Law of 1992 authorized Argentine firms to charter foreign vessels, which increased captures and decreased hake prices. In 1993, EU firms were granted access to the Argentine EEZ in exchange for a decrease of two-thirds in EU tariffs on some Argentine exports, in addition to financial support from the EU, comprising 29 fishing vessels.

The EU-Argentine joint ventures, 82% of which were with Spain, were formed on the basis of incentives, primarily subsidies, stipulated in the agreement. During the middle of the 1990s, Argentina was the second-largest supplier of seafood to the Spanish market. The EU 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.[93]

However, in 1998, Argentine hake populations were severely reduced, because of increased capacity and catches above the allowable figures by as much as 47%, prompting the Government to enact an emergency law that restricted the total allowable catch. In 1999, the agreement between the EU and Argentina was not extended, but many of the participating firms were already integrated into the fisheries economy of Argentina. These second-generation agreements have been strongly criticized for largely benefiting private firms from the EU. Between 1993 and 1999, the EU provided US$ 203 million for the establishment of joint ventures, including US$ 96.3 million for EU firms engaged in joint ventures, and US$ 33.6 million for scientific and technical collaboration with the Government of Argentina.[94]

[93] Dudek, 2013.
[94] Dudek, 2013; FAO, 2022.

Chapter IV

Key issues and implications of fisheries access arrangements for global fisheries sustainability

The current trend of DWF fleet deployment in various regions in the world is likely to continue in the future, amid an increasing global fish demand. Many coastal states do not have the financial resources and technical capabilities to develop their domestic offshore fishing capacity and are likely to continue renting their EEZ fisheries to other states.

Past experiences of DWF activities offer a great variety of situations that range from failed and unfair IFAAs to cases of sensible and successful cooperation. They also highlight several issues that need to be addressed to ensure that the next generation of IFAAs are equitable and support the development of global fisheries that are ecologically, socially and economically sustainable.

Conservation and management measures

Despite substantive improvement in many countries, several developing regions still lack the capacity and resources to manage their EEZ fisheries properly and assess the appropriate basis on which to negotiate sound, fair and unharmful IFAAs. While lack of data rarely permits governments of developing countries to have sound fisheries policies, often the issue is lack of support to research centers and their scientists to make sense of available data on catch and fishing efforts, and of ancillary economic data.[95]

As a result of this and other considerations discussed hereafter, coastal states often prefer short-term benefits through IFAAs where fees are negotiated as a lump sum or based on the income generated by the foreign fishing capacity. This often encourages underreporting or other misuse, in particular when coastal states do not have MCS and enforcement capabilities. It also promotes overfishing and overcapacity, creating conflicts with small scale fishing for certain species and threatening livelihoods and food security of local fishing communities.

For example, researchers have reconstructed catch data off the EEZs of 22 African countries bordering the Atlantic Ocean over the period 2000 – 2010, to determine the value and compensation of the fish caught by fleets from the EU and China (Table 7).[96] They reported an average yearly catch of 1.6 million tons by the EU and 2.3 million tons by China, while the reported catches represented only 29% (EU) and 8% (China), respectively, of their estimated total catches (including estimated discards whenever possible). The monetary value of EU fishing agreements, correlated in theory with reported catches, is straightforward to access. But information regarding the use of the funds by the coastal states is not publicly accessible. On the other hand, the compensation for access agreements with China is readily traceable within the African economy through the different projects they directly cover. Overall, the study estimates the Chinese compensation to about 4% of the value at landing of the catch taken by Chinese DWF fleet from West African waters, while the EU compensation was estimated at 8%. According to Belhabib et al. (2015), the officially reported compensation rates were 40% for China and 26% for the EU, respectively.

DWF experiences show varied IFAAs, highlighting issues to address for equitable and sustainable global fisheries development.

Transparency and equity

IFAAs are regularly criticized for their lack of transparency regarding access conditions, DWF fleet ownership and operations, onboard labor practices, transshipment, and catch and landing data of the DWF fleets. The outcomes and benefits of IFAAs for coastal states have often not been demonstrated.

[95] Belhabib et al., 2015.
[96] *Ibid.*

Table 7.
Reconstruction of catch data, landing value and compensation rates of fish caught by EU and Chinese fleets off the coast of West African countries

Parameter	European Union	China
Reconstructed total catch (1,000 tonnes)	1,836.9	2,251.0
Reported total catch (1,000 tonnes)	524.3	179.2
Legal landed value (million US$)	3,549.1	2,910
Illegal landed value (million US$)	151.8	1,814
Officially claimed compensation (per cent)	28	40
Actual compensation (per cent)	8	4

Source: Belhabib et al., 2015.

A balanced negotiation of IFAAs presupposes an ideal market situation, where there are many resource seekers and resource holders, with equal access to information and alternatives. In reality, there are inherent imbalances in the negotiating process because of information asymmetry. Developing coastal states often have insufficient or no information on the status of the target species and the current level of exploitation. Therefore, they cannot estimate what the DWF fleets can catch in their EEZs. On the other hand, the DWF fleets may have been fishing in the EEZs targeted for some time and therefore have 'historical catch data' which they do not always share. Likewise, coastal states entering the negotiations lack reliable market information and the full economic benefits that can be derived from the catch in their EEZs, and this seriously weakens their bargaining power. They are dependent, to a great extent, on what the DWF nations report, with limited capacity for verification.

Furthermore, it has been reported that on several occasions, DWF nations used their political or economic influence to secure favorable terms and fishing opportunities for their fleets using for example market access restrictions or by offering equipment, infrastructure, agriculture or economic development projects to coastal countries, pushing resource management to the periphery, and focusing on economic considerations to the detriment of the long-term health and sustainability of the fisheries. Corruption scandals, involving parties to several fisheries access agreements, have smeared further the overall reputation of these agreements.[97]

As a result, there is a view that – on the one hand – compensation from IFAAs accruing to coastal states is not in the right balance with the resources obtained, and – on the other hand – that the revenues are not sufficiently used by coastal states to improve fisheries sustainability and livelihoods of coastal communities. A recent study analyzing coastal state governance performance as a driving factor for DWF decisions and fishing effort shows that coastal states are unlikely to decouple fishing agreements from economic and political considerations, and that some IFAAs are a mode of "fish grabbing", whereby wealthier and/or politically more influential states can take advantage of fishing in the EEZs of often weaker states through these agreements.[98]

[97] Mwikya, 2006; Yozell and Shaver, 2019; FAO, 2022; Stabler et al., 2022.
[98] Stabler et al., (2022).

International instruments such as UNCLOS, the UNFSA and the CCRF call for transparency by all states, regional and sub-regional bodies in the mechanisms for fisheries management and in the related decision-making processes. IFAAs are clearly "mechanisms for fisheries management" that should be negotiated in a transparent and equitable manner. Likewise, both DWF nations and coastal states are equally responsible for ensuring proper fisheries management and enforcement of conservation measures. The priority of IFAAs should be to build the capacity and infrastructure of the coastal states to assume their conservation and management roles effectively. Likewise, DWF fleets should assume their proportionate share of the environmental and social costs of sustainable fishing and support scientific research on the status of stocks by collecting and reporting in an accurate and timely manner data on catch and effort. The interests of the coastal state industry, including small scale fishers, should be protected.

Ideally, coastal states should in the long run prioritize the harvesting of their own resources by their domestic fleet and add value to the harvest on-shore before domestic marketing and exports. This requires financial resources to adapt and modernize the domestic fleet and the management capabilities. This is still very challenging for many developing countries where income from IFAAs is diverted to service debt and address other national priorities, often not related to fisheries.

Nevertheless, several countries have been taking small steps and adopting policies in this direction. For example, coastal states of East Africa have shifted policies aiming to capture more revenue from foreign vessels accessing their waters or to encourage the development of a domestic, industrial fishing industry. Mozambique increased license fees nearly 100 times more than they were previously priced in an attempt to encourage joint venture partnerships with local companies. Tanzania banned foreign fish imports with the intent to boost domestic fishing, while Kenya banned most foreign vessels from its waters and opted to develop its domestic fishing industry and facilities to support it.[99]

DWF nations have an obligation to ensure that their flagged vessels are not engaged in illicit practices such as labor abuses and IUU fishing. The top five DWF fleets reportedly display varying levels of commitment to these aspects.[100] Restrictions on market access, such as those implemented by the EU or the USA to combat IUU, provide an efficient way to improve countries' commitment to combatting IUU fishing, including DWF nations. This is for example the case of Taiwan Province of China and South Korea, two of the top DWF fleets, that were criticized by the international community for their opacity and the link of their DWF fleets to IUU activities.[101] As a result, they revised their fisheries regulations and adopted measures to ensure that fish originating from their DWF fleets were not linked to IUU fishing.

Fisheries subsidies, overfishing and overcapacity

Many countries, including some leading fishing nations, subsidize the fishing activities of their DWF fleet (see Section 2.2.5). Fisheries subsidies can be used to enhance the level of fishing effort (e.g., subsidies on fuel and vessel modernization and construction), to improve management of fisheries or to improve services and infrastructure such as ports and harbors, storage and cold chain facilities. As such, subsidies often distort the true costs of operating a fishing vessel.

Ideally, coastal states should in the long run prioritize the harvesting of their own resources by their domestic fleet and add value to the harvest on-shore before domestic marketing and exports

[99] Yozell and Shaver, 2019.

[100] *Ibid.*

[101] *Ibid.*, 2019; See also: https://www.fao.org/faolex/country-profiles/general-profile/en/?iso3=KOR.

Experts have argued that fishing capacity enhancing subsidies contribute to overfishing, particularly in coastal countries that have low capacity to develop, monitor and enforce fisheries management regimes. Research suggests that fishing at the current scale is enabled by large DWF government subsidies, without which as much as 54% of the present high-seas fishing grounds would be unprofitable at current fishing rates.[102]

Global trends on the geographic expansion of industrial fishing are dominated by the expansion histories of a small number of DWF nations, namely China, Japan, Taiwan Province of China and Spain, which increased their mean distance to fishing grounds by 2'000 to 4'000 km between 1950 and 2014.[103] While fisheries have extended their reach into the global oceans, catch per unit area and per kilometer traveled have declined continuously for over two decades, with the global catch per unit of effort halving from its level in 1950. Since 1950, heavily subsidized fleets have increased the total fished area from 60% to more than 90% of the world's oceans, doubling the average distance traveled from home ports but catching only one-third of the historical amount per kilometer traveled. Allowing these trends to continue threatens the bioeconomic sustainability of fisheries globally and calls for reducing the subsidies that enable unprofitable fishing on the high seas. This would also reduce income inequality among maritime countries. Further, studies show a trend in which seemingly unprofitable companies keep reapplying for licenses each year, most likely combining subsidies and unreported fishing to enhance their profitability.[104]

Considered alongside the well-documented increase in the number of overfished stocks, these trends warrant an urgent reduction in fishing effort if declines in fisheries productivity are to be halted and reversed. Reducing the high levels of fuel and capacity-enhancing subsidies paid by fishing countries, in particular by the very small number of countries that fish the furthest from home, would be a powerful first step in addressing the global problem of overfishing.[105]

Transshipment

Transshipment, i.e. the transfer of catch from one fishing vessel to another fishing or refrigerated cargo vessel (reefer), is practiced in various fisheries around the world, to consolidate fuel costs within a fleet and quickly move products to markets, thus reducing fishing operating costs and maximizing fishing opportunities. Transshipment allows fishing vessels and their crews to stay at sea for longer periods of time, sometimes up to a year, increasing various risks for abuse. Actors that rely heavily on transshipment at sea consider it a legitimate part of the fish commodity supply chain, under effective regulation. However, the practice has become intensely debated as being associated with the risk of IUU fish entering the supply chain and facilitating criminal activities in the fisheries sector. It can enable vessels fishing illegally to evade most monitoring and enforcement measures, offload their cargo, and resume fishing without returning to port. At the same time, transshipment at-sea can facilitate trafficking and exploitation of workers who are trapped and their rights abused on fishing vessels, including in the form of modern slavery.[106]

[102] Sala et al, 2018. Using newly compiled satellite data and machine learning technology, the research estimated high-seas fishing effort, costs and benefits, and assessed whether, where, and when high-seas fishing makes economic sense.

[103] Tickler et al, 2018.

[104] Yozell and Shaver, 2019.

[105] Tickler et al., 2018.

[106] Ewell et al., 2017; Kroodsma et al., 2017; Seto et al., 2019; Yozell and Shaver, 2019; Mosteiro Cabanelas et al., 2020.

Transshipment introduces concerns over traceability and transparency in the fish industry. Operators engaging in IUU fishing can access reputable markets, laundering illegally caught fish by mixing it during transshipment with fish caught legally. The practice obscures supply chains and prevents an accurate measurement of the real harvest, thus threatening the ability to fish in the ocean sustainably.[107]

Policies on transshipment vary across the globe. In regions with comparatively good fisheries management, transshipment activities are closely regulated and monitored, with independent verification of catch and transshipment, adequate capacity to enforce conservation measures, as well as the opportunity to investigate illicit activities. For example, FFA has banned transshipment by purse seine vessels at sea, requiring it to take place at port allowing the port authority to verify all transshipments, collect data on catch, and independently investigate all sorts of violations.[108] Several RFMOs allow transshipment at sea but have implemented a CDS. For example, CCAMLR requires all transshipments of toothfish products, whether at port or at sea, to be independently verified by observers, who certify documents indicating that fishing is consistent with conservation measures. Unfortunately, states with inadequate, non-existent or poorly enforced regulations have been reported to allow transshipment to occur at sea with no independent observer, no verification of transshipment catches, and no monitoring of IUU activities.[109]

Transshipment is reportedly most common in the high seas and the Russian EEZ, with about 42% of the likely and potential encounters occurring in the high seas, and the remaining 58% within EEZs of different nations.[110] About a third of the total events occur in the EEZ of Russia, where transshipment appears to be a standard part of the operational model. For South Korea, nearly 20% of its fishing activity in coastal countries' waters is potentially transshipped.[111] The remaining transshipment is most common in the EEZs of Africa and Oceania. Research has identified three possible behavioral patterns based on where potential transshipment encounters occur:

- ✓ Countries with strong regulation and enforcement, such as North America and Europe, have little transshipment inside or near their EEZ;
- ✓ For other countries, transshipment occurs right along their EEZ boundary, such as off the coast of Peru, South Africa, or Western Australia. These are generally countries with well-respected and monitored EEZ boundaries and rich fishing grounds in the nearby high seas;
- ✓ Some countries have significant transshipment occurring well within their EEZ, likely because of limited monitoring and enforcement, as in the case of West Africa, or because they are far from port or market, as is the case for Russia's fleet in the Sea of Okhotsk.[112]

The research indicates that transshipment is a challenge without borders. About 42% of likely encounters occur on the high seas, and a similar proportion by transshipment vessels flying FoCs. As such, a significant portion of transshipments may occur in waters where no country has jurisdiction or be undertaken by a vessel registered to a FoC country with weak or no oversight and limited connection to the vessel.

[107] Seto et al., 2019; Yozell and Shaver, 2019; Mosteiro-Cabanelas et al., 2020.

[108] Yozell and Shaver, 2019.

[109] Kroodsma et al., 2017.

[110] *Ibid.* The study compiled a list of 641 transshipment vessels, including the majority of the world's specialized reefers, and tracked their movements using AIS data aggregated into the GFW database.

[111] Yozell and Shaver, 2019.

[112] Kroodsma et al., 2017.

Alarmingly, targeted research on tuna – on of the most regulated and visible fisheries in the world – indicates that only 32% of the observed at-sea transshipment encounters in the Western and Central Pacific Ocean were verifiable, concluding that it is not possible to fully verify transshipment—and thus traceability, legality, or impact on fish stocks—for most observed encounters for one of the most highly regulated and monitored transboundary fisheries in the world. This for a region under the management of WCPFC, considered to exercise the best policy practices on tuna globally.[113]

Assessing transshipment at sea was constrained by the fact that the majority of the WCPFC data are considered non-public domain data, thus severely limiting access by both members and third parties. As the WCPFC Secretariat makes no regular assessment of this non-public domain data for the verification of transshipment activities, it is considered ineffective at ensuring traceability and legality. The current structure of WCPFC transshipment regulations does not require sufficient reporting to enable adequate verification or accountability. Research suggests that transparency is ultimately hindered less by technical or administrative constraints, but more by tensions between the actors and objectives within management institutions. As such, increased transparency, and a focus on the underlying dynamics that inhibit it, is necessary to ensure effective conservation and management of transboundary fish stocks.

FAO guidelines on regulating, monitoring and controlling transshipment were developed to address the issues related to transshipment, based on the findings and recommendations of detailed research and surveys on global transshipment activities.[114]

Unsustainable and illicit practices and trade in distant water fishing

Several studies have pointed out DWF fleets that have engaged in IUU activities in different regions of the ocean, in contravention of international law, national and regional fisheries conservation measures, in particular in coastal states with low fisheries management capacities. This is likely more exacerbated in fishing agreements using a compensation scheme related to catch value whereby DWF vessels under-report the catch exploiting the weak MCS capabilities of the coastal state.[115]

Illicit trade in marine fisheries resources is trade that involves money, goods, or value gained from a portion of the unreported fishing of stocks by foreign and domestic industrial fishing fleets, and a fraction of unreported catches by artisanal fishing vessels that catch fish for commercial purposes.[116] International illicit fish trade can be enabled through two major channels. The first practice uses at-sea transshipments which makes proper and transparent accounting of the origin and legality of catches very difficult to achieve. For example, transshipment activities accounted for about 16% of fish exported from West African waters, where some 35 transshipment vessels were seen to operate in 2013,[117] most likely under FoC, making accountability and transparency even more challenging. The second practice that enables illicit trade in seafood relates to how fish is transported for exports. It is estimated that about 84% of fish exported out of West Africa are transported in large, refrigerated containers that are generally subjected to far less stringent reporting and inspection requirements.

[113] Seto et al., 2019. The research used AIS data and qualitative information from regional and sub-regional sources.

[114] Mosteiro- Cabanelas et al, 2020.

[115] Belhabib et al., 2015; Sumaila, 2018; Sumaila et al., 2020.

[116] Sumaila et al., (2020).

[117] Daniels et al., 2016.

Researchers estimate that between 7.7 and 14.1 million metric tons of unreported fish catches, estimated at US$ 8.9 and US$ 17.2 billion of monetary value, were potentially traded illicitly each year between 1950 to 2014, taking it out of the legitimate food supply system of many countries, affecting food security and livelihoods of millions.[118] Catch and gross revenue losses were not distributed equally across the various geographic regions. **Asia, Africa, and South America suffered the biggest losses in catch due to suspected illicit trade**. The combined unreported catches deemed to likely contribute to illicit trade from these three geographic regions, accounted for around 85% of total catch losses to possible illicit trade globally. The estimated losses to legitimate (formal) trade in gross revenue for these three geographic regions are between US$ 7.3 and US$ 14.0 billion per year, or around 82% of the global gross revenue loss to the legitimate trade system.

The global economic impact from the redirection of fisheries catches away from the legitimate trading system toward potential illicit trade was estimated between US$ 25.5 and US$ 49.5 billion per year, with an average annual income impact of the involved seafood workers estimated between US$ 6.8 and US$ 13.3 billion. Likewise, the estimated potential losses to governments' tax revenues, assuming that unreported catches and the associated illicit trade largely bypass the taxation system due to their unreported nature, amounted to between US$ 2.2 and US$ 4.3 billion annually.

The effects of likely illicit trade in marine fisheries resources, in terms of economic and income impacts, were most pronounced in Africa and Asia. Africa was estimated to experience between US$ 7.6 and US$ 13.9 billion and US$ 1.8 and US$ 3.3 billion losses annually in economic and income impacts, respectively, due to the redirection of catches from legitimate to illicit seafood trade.

Table 8.
Annual estimated average catch and gross revenue losses and economic impacts as a result of IUU fishing

Region	Catch loss (Million tonnes)	Revenue loss (Billion US$)	Economic impact (billion US$)	Income impact (billion US$)	Tax revenue (Billion US$)
Africa	1.96 – 3.47	2.94 – 5.36	7.63 – 13.88	1.83 – 3.32	0.83 – 1.53
Asia	3.62 – 6.64	3.90 – 7.59	10.28 – 20.26	2.74 – 5.39	0.81 – 1.60
Europe	0.85 – 1.55	1.0 – 1.80	3.09 – 5.65	0.75 – 1.38	0.19 – 0.35
North America	0.24 – 0.60	0.56 – 1.27	1.98 – 4.47	0.69 – 1.55	0.15 – 0.34
Oceania	0.03 – 0.05	0.06 – 0.1	0.18 – 0.32	0.04 – 0.072	0.016 – 0.026
South America	1 – 1.8	0.48 – 1.11	0.98 – 2.27	0.27 – 0.62	0.13 – 0.30
Total	7.7 – 14.1	8.9 – 17.3	25.5 – 49.46	6.84 – 13.27	2.21 – 4.29

Source: Sumaila et al., 2020

[118] Sumaila et al., 2020, based on freely accessible reconstructed data from www.seaaroundus.org.

A good proportion of this is due to unreported catches by large industrial fleets, most of which are foreign. Asia fairs even worse, with estimated economic losses of US$ 10.3 to US$ 20.3 billion and income impacts of US$ 2.7 to US$ 5.4 billion annually, representing 41% of overall global economic and income impacts of likely illicit seafood trade, compared to 28% for Africa. As to be expected, illicit seafood trade ultimately affects tax revenues for maritime African and Asian countries much more than other parts of the world, estimated at US$ 0.83 to US$ 1.50 billion and US$ 0.81 to US$ 1.60 billion annually for these continents, respectively. Combined, the potential tax revenue losses due to likely illicit trade in African and Asian marine resources account for 72 to 74% of global tax revenue losses, amounting to between US$ 1.6 and US$ 3.1 billion annually.

Against this background, tackling illicit trade in marine fisheries and seafood resources is crucial and urgent. Substantially improved transparency and accountability, including comprehensive accountability along the industry supply chain, from net to plate, are urgently needed. In addition, there is an urgent need to ratify and enforce the various existing international agreements, addressing fish laundering via transshipment operations, granting fishing access permission only to vessels that are insured by marine insurance companies that exclude any IUU-listed vessel through transparent due diligence, and stepping up collaborative enforcement activities. Full accountability and public transparency is required to ensure that fish resources are sustainably and legally caught and traded and that the benefits accrue equitably to the people and governments of each country where fishing occurs.[119]

Policy coherence across domestic and distant waters

Policy coherence for development has been debated in many fora over the last three decades, including in fisheries. It addresses the fundamental requirement that while pursuing the challenge of achieving sustainable development, countries need to design effective policies that avoid impacts that adversely affect the development prospects of other countries. At the same time, they need to enhance their capacities to exploit synergies across different policy areas with important cross-border dimensions, such as trade, investment, agriculture, fisheries, environment, migration and development co-operation to create environments conducive to development.[120] As a result, policy coherence for development has been promoted as a process for taking into consideration the economic, social, environmental, and governance dimensions of sustainable development at all stages of policy making, including in bilateral and multilateral cooperation (Table 9).[121]

Lack of policy coherence of DWF nations has been regularly denounced.[122] Concerns have been raised over IFAAs exporting DWFNs' overcapacity to developing coastal states, often with heavy subsidies, despite evidence suggesting that certain species such as demersal species are either fully or over-exploited, with the majority being of uncertain status.[123] Further, several reports point out to DWF nations that enter into fisheries access agreements with countries with limited capabilities to police activities of vessels in their waters, or states that have been

[119] Sumaila et al., 2020.
[120] OECD, 2006; 2016.
[121] OECD, 2006; Martini and Lindberg, 2013; OECD, 2016.
[122] Okafor-Yarwood and Belhabib, 2020.
[123] Doumbouya et al., 2017; Belhabib et al., 2019; Okafor-Yarwood, 2019.

Table 9.
Objectives and action-oriented elements of policy coherence for development

Objectives	Implications
• Exploit positive synergies across policies to support sustainable development, pursuing win-win situations and mutual benefits. • Increase governments' capacities to balance divergent policy objectives and help them to reconcile domestic policy objectives with international objectives. • Avoid or minimize the negative side-effects and impacts of policies on sustainable development.	• The interactions among various policies in the economic, social, environmental, legal and political domains support countries on their pathway towards inclusive sustainable growth. • Putting in place institutional mechanisms, processes, and tools to produce effective, efficient, sustainable and coherent policies in all sectors. • Fostering multi-stakeholder policy dialogue to identify the barriers to, and the catalysts for, change.

identified as enabling IUU fishing in their waters through either their actions or inactions.[124] The combined effort by both the legal fleets under agreements and the IUU fleet has led to overexploitation and caused the individual income of local fisherfolks to dwindle drastically in some countries, reaching for example less than $1 US/day in Guinea-Bissau and less than $6 US/day in Liberia.[125] It is argued that when fish stocks that are overexploited experience further effects of competition, it is usually the small-scale fleet, whose operations are rigid in time and space, that suffers the most being unable to make proper income, causing increased poverty and food insecurity.[126]

To respond to these challenges, the fisheries policy of all DWFNs, whether for domestic or distant waters, should be aligned with international law, in particular the necessity to ensure, through proper conservation and management measures, that living resources, whether in the national or foreign EEZs or high seas, are not endangered by over-exploitation, and that only surplus EEZ allowable catches can be considered for harvesting under fisheries access agreements.

Fisheries access agreements and the 2030 Agenda for Sustainable Development

Since 2015, the 2030 Agenda for Sustainable Development has provided a global framework to achieve a better and more sustainable future for all. It continues to shape the strategies of countries, international organizations, academia, industry and civil society. The SDGs and their related targets and indicators are central to the achievement of inclusive development that encompasses environmental, economic and social concerns. The interconnected nature of the SDGs makes them indivisible by nature, with progress in one area supporting progress in another.

The significance of marine fisheries is well represented in the 2030 Agenda. Sustainable Development Goal 14: "*Life below Water*" seeks to conserve and sustainably use the oceans, seas and marine resources for sustainable development. It has seven targets and three means of implementation dedicated to humanity's interactions with the ocean.[127] Goal 14 confirms the prominence of ocean issues within the global agenda and places ocean health at the heart of sustainable development (Table 10).

[124] Okafor-Yarwood, 2019; Doumbouya et al., 2017.
[125] Belhabib et al., 2015b.
[126] Belhabib et al., 2016; Okafor-Yarwood, 2019.
[127] For more details, see https://sdgs.un.org/goals/goal14.

Table 10.
Targets of SDG 14 directly relevant to fisheries access agreements

SDG 14: CONSERVE AND SUSTAINABLY USE THE OCEANS, SEAS AND MARINE RESOURCES FOR SUSTAINABLE DEVELOPMENT
Target 14.2 PROTECT AND RESTORE ECOSYSTEMS By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans
Target 14.4 SUSTAINABLE FISHING By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics.
Target 14.6: END SUBSIDIES CONTRIBUTING TO OVERFISHING By 2020, prohibit certain forms of fisheries subsidies which contribute to overcapacity and overfishing, eliminate subsidies that contribute to illegal, unreported and unregulated fishing and refrain from introducing new such subsidies, recognizing that appropriate and effective special and differential treatment for developing and least developed countries should be an integral part of the World Trade Organization fisheries subsidies negotiation.
Target 14.7: INCREASE THE ECONOMIC BENEFITS FROM SUSTAINABLE USE OF MARINE RESOURCES By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism.
Target 14. A: INCREASE SCIENTIFIC KNOWLEDGE, RESEARCH AND TECHNOLOGY FOR OCEAN HEALTH Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries.
Target 14.B SUPPORT SMALL SCALE FISHERS Provide access for small-scale artisanal fishers to marine resources and markets.
Target 14.C: IMPLEMENT AND ENFORCE INTERNATIONAL SEA LAW Enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources, as recalled in paragraph 158 of "The future we want".

Likewise, SDGs 1 and 2 are aimed at bringing an end to poverty and hunger of which a sustainable supply of fish is an important means to realization. Fisheries also make a substantial contribution to the revenue of many developing countries, thereby assisting the attainment of SDG 8 which seeks to ensure sustainable economic growth. Other goals are strongly linked to the management and use of fisheries and those links are studied and their impacts regularly monitored and reported.[128]

Evaluations of the utility of current practices of DWF and IFAAs are scarce and often negative, and the relationship of these practices to the 2030 Agenda non-existent. Further, progress towards achieving the SDG 14 targets is very limited, with 3 targets (14.4; 14.5; 14.6) far beyond their date of achievement 2020.[129]

DWF fleets and coastal countries do not always live up to their obligations on reporting data, including logbook catch and by-catch data, vessel registration information, labour conditions such as crew and wage data, and official reporting on how compensation funds have been used to support sustainable fisheries in coastal countries. Without a reliable and transparent mechanism to report these data, targets 14.4; 14.6; 14.A and 14.B can be severely antagonized. Similarly, subsidies, unregulated transshipments and conflicts with small scale fisheries impact negatively progress towards achieving most SDG 14 targets.

Fundamentally, SDG 14 targets and fisheries agreements' objectives can be in conflict where and when DWF nations subsidize their fleets, or in the absence of reliable data on the health status of the target stocks, or the capacity of resource holders to enforce the agreement conditions and rules.[130] Where already overexploited stocks in developing countries' waters are targeted by DWF fleets, the livelihoods of coastal communities are further jeopardized, threatening food security.[131] This represents a significant step backwards in terms of a transition to sustainable use of ocean resources, the major aim of SDG 14.

[128] https://www.un.org/en/conferences/ocean2022.
[129] https://sdg-tracker.org/oceans.
[130] Johnson et al., 2020.
[131] Okafor-Yarwood and Belhabib, 2020.

Chapter V

Conclusions and recommendations

International fisheries access agreements are very diverse, with modalities and final outcomes that vary from case to case, depending on the parties to the agreement, their political and economic relations, the fish species, the fishery and gear type, etc. The next generation of IFAAs requires a change of paradigm in their negotiation and implementation focusing on rebuilding fisheries stocks and ensuring their sustainability, in full respect of the relevant provisions of international instruments and coherence with the 2030 Agenda. Table 11 presents some key principles and actions for equitable IFAAs respecting conservation and management measures.

Adherence of IFAAs to these principles requires a commitment to create an enabling environment ensuring the necessary ways and means to address the challenges and resolve the issues identified in this study.

Next-generation IFAAs need a paradigm shift to rebuild sustainable fisheries, respecting international law and 2030 Agenda.

Table 11.
Key principles for consideration in international fisheries access agreements

Principle	Action
Transparent and equitable agreements	The negotiation of and terms and conditions of access agreements should be transparent, aiming at achieving equitable agreements that protect the interests of domestic fishers of the coastal state, in particular small-scale fishers.
Science based sustainable level of fishing	The total allowable catch and the total fishing capacity of the combined domestic and DWF fleets should be consistent with a sustainable level of fishing, based on a clear scientific assessment of the state of stocks. This principle assumes that no IUU fishing enters the equation thanks to appropriate monitoring and enforcement of up-to-date fisheries legislation corresponding to the core international instruments.
Best fisheries management practices	The terms and conditions for fishing under access arrangements should be based on best fisheries management practices, including a thorough review of the status of the fishery resources concerned before renewing an agreement.
Share of economic and environmental costs	Arrangements for access should ensure that DWF fleets assume their proportionate share of the economic and environmental costs of sustainable fishing in the fisheries for which access has been granted.
Responsibility of the flag state	The flag state should take such action as may be necessary to ensure that its flag vessels comply with the fisheries laws and regulations of the coastal state, including prosecution and appropriate sanctions under its own domestic laws for serious violations.
Scientific research and data collection	The DWF nation should cooperate with the coastal state in carrying out scientific research on the status of stocks, including the necessity for the DWF fleet to collect and report in an accurate and timely manner data on catch and effort.
Enforcement of the terms of the agreement	The coastal state should ensure, directly or through third parties, that its MCS capabilities are adequate to enforce its fisheries laws and regulations. Benefits from the agreements should as a priority be devoted to upgrading research and MCS capabilities.

Ensure fisheries access agreements respect conservation and management measures

The depletion of fish stocks in various parts of the world, the inability of many coastal states to exploit their offshore fisheries resources and the increasing global fish demand are likely to continue driving the deployment of DWF fleets in many regions of the world. Although many coastal states aim to prioritize the sustainable use of their fisheries resources and the local economy before granting fishing access to other countries, there are coastal states that are economically weak and indebted, and need income to address development priorities, more often than not, in sectors other than fisheries. As a result, these governments opt for short-term benefits from IFAAs whereby fees are negotiated as a lump sum or based on the fishing effort or the value of the catch, rather than on the basis of sustainable catch quotas which in many cases are not known.

Furthermore, many coastal developing states lack the capacity to measure, monitor or control the state of their fishery resources, and to police the fishing activities in their EEZs. Consequently, significant catches are not reported or landed in the coastal states, severely undermining the development of domestic activities and services such as processing and marketing. This situation is perpetuated because the fees generated from these agreements are not reinvested into fisheries management, enforcement, or local training and capacity building, nor are they reinvested in coastal communities and the local fishery sector.

Negotiating access to their EEZ fisheries should be regarded by coastal states as an integral part of their fishery management regime and based on clear evidence that the resource is underutilized and hence that a surplus can safely be rented, and will not impact negatively the resource and the coastal communities that depend on it. This should apply to national and DWFN catches within the EEZ but also to the same stocks outside the national EEZ for shared, highly migratory and straddling stocks. All catches of these stocks should be incorporated within a cooperative management framework through a regional or sub-regional agreement.

Based on empirical experience and research, coastal states engaging in IFAAs should take into account the following:

- The IFAA fishing zones should be areas in which the fish stock components are not the primary targets of national fleets;
- DWF fleets should not be allowed to fish for offshore components of stocks on which inshore artisanal fishers depend for a livelihood;
- Emphasis should be given to deepwater species, and species for which local markets do not exist or which require special fishing techniques or gear that are not locally available.

Quantitative, qualitative and gender disaggregated data should also be compiled on the socio-economic aspects of the fisheries, including employment generated, the level and repartition of income and value addition along the fisheries value chains, the contribution to national food security and nutrition, etc.

Ensure transparent and equitable fisheries access agreements

Persistent opacity around IFAAs, their terms, benefits and constraints, contravenes international instruments such as UNCLOS, the UNFSA and the CCRF which underline the necessity for transparency by all states, regional and sub-regional fisheries management bodies and related decision-making processes. IFAAs are clearly “mechanisms for fisheries management” that should be negotiated in a transparent manner, defining clearly

the benefits and responsibilities of DWFNs and coastal states for ensuring proper fisheries management and enforcement of conservation measures.

The priority of IFAAs should be to build the capacity and infrastructure of the coastal states to assume their conservation and management roles effectively. DWF fleets should assume their proportionate share of the environmental and social costs of sustainable fishing and support scientific research on the status of stocks by collecting and reporting in an accurate and timely manner data on catch and effort. The interests of the coastal state industry, including small scale fishers, should be protected.

In 2018, the UN General Assembly Resolution 73/125 concerning sustainable fisheries, Article 229,[132] requested DWF nations, when negotiating access agreements and arrangements with developing coastal states:

- To do so on an equitable and sustainable basis and to take into account their legitimate expectation to fully benefit from the sustainable use of the natural resources of their EEZs;
- To ensure that vessels flying their flag comply with the laws and regulations of the developing coastal states adopted in accordance with international law; and to give greater attention to fish processing and fish-processing facilities within the national jurisdiction of the developing coastal state to assist in the realization of the benefits from the development of fisheries resources;
- to give greater attention to the transfer of technology and assistance for MCS and compliance and enforcement within areas under the national jurisdiction of the developing coastal state providing fisheries access;

Article 230 of the same resolution encourages greater transparency regarding fisheries access agreements, including by making them publicly available, subject to confidentiality requirements.

Coastal states and DWF nations should legally embed transparency on IFAAs in their national fisheries policies. They should request the systematic publication of IFAAs, subject to confidentiality requirements, as well as information on DWF vessels, catch and socio-economic data, joint ventures and chartering arrangements.

Coastal states should establish the requirement of making foreign vessel registries, vessel ownership and company information publicly available as a condition to gain access to their EEZs. The Fisheries Transparency Initiative (FiTI) provides a solid foundation for countries to improve the transparency of their fishing industry.[133] However, FiTI is a new program with voluntary membership, and as such it should be supported and monitored to assess its impact to improve transparency, including in relation to DWF fleet.

Eliminate subsidies that enhance overcapacity and overfishing

Subsidies of DWF fleets continue to be a major issue in IFAAs. Research discussed in this report indicates that without these subsidies, fleets of several DWFNs would be unprofitable, in other words subsidies are distorting the true costs of fishing vessel operations. They likely contribute to overfishing, particularly in coastal countries that have low capacity to develop, monitor and enforce fisheries management regimes.

After more than 20 years of negotiations, an agreement has been reached at the twentieth WTO ministerial conference in June 2022. It seeks to curb harmful subsidies globally and establish safeguards where fisheries regulations or management measures do not exist or are ineffective. The Agreement includes rules prohibiting subsidies for fishing of overfished stocks

[132] UNGA Resolution 73/125, adopted 11 December 2018 (A/RES/73/125).
[133] https://www.fiti.global/wp-content/uploads/2020/11/FiTI_Brochure_CoastalCountries_EN_20190901.pdf.

(except those that are implementing management measures to rebuild the stock to a biologically sustainable level) and unregulated fishing in high seas beyond the jurisdiction of states and of relevant RFMOs. The Agreement also expands existing transparency and notification requirements.

However, the crucial area of subsidies that contribute to overcapacity and overfishing did not gain consensus for their regulation and prohibition. Members agreed to continue negotiations to achieve, within four years of the entry into force of the Agreement, a comprehensive agreement that includes further disciplines on subsidies that contribute to overcapacity and overfishing. If not successful, the Agreement will be considered immediately terminated.

The WTO negotiations should be accelerated to achieve a positive outcome soonest. Experts consider it urgent to request DWF fleet owners to assume fair fisheries access costs, not their nations. This should restore market prices that reflect the true costs of fishing operations.

States should urgently end subsidies such as vessel modernization, tax incentives and rebates, and fuel subsidies, considered harmful to the health of fisheries resources. In this respect, the UN Conference on SDG 14[134] requested states to:

- Strengthen through capacity-building and technical assistance the reporting, monitoring and surveillance of fisheries subsidies at the global, regional and national levels.
- Encourage national Governments to consider redirecting existing fisheries subsidies to support fisheries management, economic diversification, community education and the emergence of a sustainable ocean economy.
- Enhance inter-agency cooperation to gather and analyse existing data on fisheries subsidies and public support measures and extend cooperation among bilateral and multilateral donors in providing technical assistance and capacity building to developing countries, particularly least developed countries, to implement new fisheries subsidies disciplines and support measures, such as stock assessment, MCS, and the making of IUU determinations.

Eliminate unsustainable and illicit practices and trade

On several occasions, DWF fleet operating under legal fishing agreements have been reported to resort to various unsustainable and illicit practices to extract most economical benefits by circumventing rules and oversight wherever enforcement was deficient, at the expense of sustainability. Practices such as the use of FoC, transshipment, under-reporting and illegal fishing are still reported in global EEZs and high sea fisheries, potentially perpetuated through inequitable and opaque IFAAs.

The use of FoC or “flag-hopping” by fishing vessels, including DWF fleets, exacerbates the opacity of the fishing sector, hindering efforts to identify and sanction the offenders and main beneficiaries of illicit practices. This type of abuse frustrates the efforts of flag states that enforce policies to make their fleets compliant with rules for sustainable, legal and ethical fisheries. There are achievable and realistic steps that fishing FoC states should take to leave the FoC system. Coastal states, as well as the private sector, can also adopt measures grounded in increased transparency to close their waters, ports, markets and supply chains to fish caught by vessels flying FoCs.

Transshipment is practiced to consolidate fuel costs within a fleet and move products to market more quickly, thus reducing

[134] https://documents-dds-ny.un.org/doc/UNDOC/GEN/N22/454/51/PDF/N2245451.pdf?OpenElement.

fishing operating costs and maximizing fishing opportunities. Due to difficulties in monitoring the practice effectively, risk of abuse is considerable and, in many cases, demonstrated. The practice obscures supply chains and prevents an accurate measurement of the real harvest, thus threatening the sustainability of fisheries. To tackle the issue, substantially improved transparency and accountability, including comprehensive accountability along the industry supply chain, from net to plate, are urgently needed.

Clear guidelines on the content and negotiating procedures of IFAAs should be enshrined in international law, in particular UNCLOS, the UNFSA, PSMA, the Code of conduct for responsible fisheries and the supporting guidelines to improve transparency, traceability and enforcement (see section 2). More specifically, IFAAs should reflect the provisions on allowable catches and fishing capacity, the adherence to best fisheries management practices, safeguarding the interests of domestic fishers of the coastal state, in particular small-scale fishers, the responsibility of flag and port states to combat IUU, the obligation of the DWF fleet to collect and report in an accurate and timely manner data on catch and effort (see Table 12).

In addition, there is an urgent need to ratify and enforce the existing international agreements, addressing fish laundering via transshipment operations, granting fishing access permission only to vessels that are insured by marine insurance companies that exclude any IUU-listed vessel through transparent due diligence, and stepping up collaborative enforcement activities.

DWF countries have an obligation to ensure that their flagged vessels are not engaging in illicit practices. Many experts and organizations consider that ultimately, all flag states operating as FoCs should remove foreign-owned fishing vessels and fish carriers altogether from their registry. For many states operating as FoCs, this change will not happen overnight and in the meantime, it is recommended that all flag states (regardless of whether they operate as FoCs or not) have systems in place to be able to identify vessel owners that can be held accountable in the case of IUU fishing or other offences that require sanctions.

Transshipment should be authorized only by countries and RFMOs with good fisheries management schemes that can regulate and closely monitor transshipment activities, with independent verification of catch and transshipment, the capacity to monitor and enforce conservation measures, as well as the opportunity to investigate transnational criminal activities, in line with the FAO Voluntary Guidelines for Transshipment (2023). Reforming transshipment is a challenge, but it can be done through clear and proven technological solutions, stronger oversight, and a commitment to transparency from all parts of the fishing industry.

Establishing a registry of reflagging and FoC vessels that is easily accessible will also result in higher transparency at local and regional levels. Seafood traceability across the supply chain, including transshipment and processing, should be mandated as a requirement for market access to combat IUU fishing and seafood fraud and help sustainably manage fisheries. Support to developing coastal countries to this end could be part of sectoral technical assistance directed to countries.

Foster policy coherence between domestic and distant waters fisheries

DWF nations' policies should guarantee coherence between their actions in domestic and distant waters, eliminate subsidies considered harmful to sustainable fisheries and engage in fair, equitable and transparent IFAAs. Resource holding states should do more to optimize their income and benefits from IFAAs, by investing the revenue in effective marine management and enforcement as a priority.

DWF nations and coastal states should ensure that there is a clear de-coupling between the compensation fees for access possibilities and the development aid provided to coastal states in the form of equipment, infrastructure or other development projects. The compensation fees should be spent as priority to build capacity and infrastructure to support fisheries management and livelihoods of coastal communities. Other forms of aid should be tailored to local needs and promote sustainable development, including in fisheries. Coastal states should be accountable on results-based indicators, such as the number of stocks assessed, number of enforcement activities carried out and their outcomes rather than the number and value of projects deployed.

Align fisheries access agreements with the 2030 Agenda for Sustainable Development

Evaluations of the utility of current practices of DWF and fisheries access agreements are scarce and worrisome, and the relationship of these practices with the 2030 ASD is non-existent. Of great concern is the fact that IFAAs often do not take into consideration the SDGs and their targets. The DWF fleets and coastal countries often fall short on their obligations on reporting reliable catch data, vessel registration information, labor conditions and information on how compensation funds have been used to support sustainable fisheries in coastal countries, antagonizing achievement of SDG 14 targets 14.4, 14.7, 14.7A and 14.C. Similarly, subsidies, unregulated transshipments and conflicts with small scale fisheries impact negatively progress towards achieving SDG 14 targets 14.6 and 14.B.

Fundamentally, SDG 14 targets and IFAA objectives diverge. DWF and coastal states should improve the alignment and coherence between their policy framework for DWF management and the 2030 Agenda. This should start by ensuring that coastal states upgrade their fisheries policy and devote adequate resources, in particular from the compensation fees, to its effective implementation. DWF nations should ensure that good fisheries management practices are implemented equally for domestic and DWF fleets and aligned with SDGs, their targets and indicators.

Both parties to the IFAAs should report regularly and in a transparent manner relevant data such as catches, beneficiary companies, as well as amount and use of the compensation funds. Most importantly, both parties should assess and report how the agreement specifically supports fisheries sustainability in coastal countries and the socio-economic development of their coastal communities impacted by the fishing agreement. More multidisciplinary research should be devoted to this neglected area in order to identify inherent conflicts between domestic and DW fisheries policy frameworks, and ways to resolve them.

Build institutional and technical capacity

To negotiate equitable IFAAs, coastal states should be well prepared and capacitated to deal with the challenge of negotiating beneficial and sustainable access conditions, managing the fisheries, and monitoring and enforcing compliance with the rules and conditions of the agreement. Evidence of successful IFAAs exists, with equitable interactions of the parties.

Unfortunately, several coastal countries granting access to DWF fleets still lack such capacities. Engaging in negotiating IFAAs with inadequate knowledge and skills impedes them from achieving rewarding outcomes, especially when faced by professional DWF negotiators, who move around the world to negotiate for the benefit of their governments and industry.

Coastal states should as a priority dedicate the revenue derived from IFAAs to fisheries research, management and enforcement, to help tackle illicit practices and sustainably manage fisheries over the long term. This includes dedicating sufficient resources to develop institutional and legal frameworks, train personnel in fisheries research, negotiation skills, and monitoring domestic and DWF vessel operations in their EEZs, as well as increasing observer coverage onboard vessels. Elevating the status of fisheries researchers, enforcement and monitoring officers and providing professional opportunities for growth will help retain qualified personnel. In addition, revenue from IFAAs should be used to strengthen productive capacities and help upgrade domestic fisheries industries, including value addition, so that coastal states can gradually themselves sustainably tap on the resources that are currently sold to DWF nations through IFAAs.

Negotiating and implementing robust and equitable fishing agreements require a multidisciplinary team covering diverse areas of expertise in negotiation, international law, policy, research, management, enforcement, socioeconomics and communication. Negotiating teams should often deploy skills required to guide the preparations and conduct of negotiations, to identify key interests and to assess the impact of concessions that may be required, and to undertake post-negotiation analysis, monitoring and evaluation. Communication skills are required to ensure transparency and public information without jeopardizing the process of negotiation.

Although coastal states have developed a significant level of strategic capacity, bargaining skills and proficiency in negotiation processes over the course of time, this capacity is often vested in a small number of senior officials and is not backed by systematic training, exacerbated by high staff turnover and loss of key staff. This requires the development of an institutionalized negotiation capacity and increasing the number of individuals with strategic capacity in fisheries negotiations and implementation and expanding their expertise to include recent complex developments in the international fisheries arena.

Strategic capacity, knowledge and skills should be acquired by coastal states to ensure an in-depth understanding of the many linkages and relationships of the fisheries sector both nationally and regionally, and in relation to the political, legal, economic and other considerations. It should also involve a good understanding of interactions between the fisheries sector and other policy areas such as trade, industrial development, and shipping - as well as internal political and social relations. Finally, strategic capacity should include the ability to rapidly acquire and constantly improve insights into the comparative advantages that different fishing fleets and companies bring to negotiations, and also their implementation.

Successful training courses and capacity building workshops have been conducted at the national and regional levels.[135] These constitute a good basis that can be adapted to regional, national and local needs and current challenges. While support materials for negotiations exist,[136] these should be updated to respond to the challenges of the current fisheries context.

> Negotiating and implementing equitable IFAAs require a multidisciplinary team with expertise in negotiation, law, policy, research, communication and enforcement.

[135] Martin et al., 2008; Mfodwo, 2008.

[136] Martin et al. (2008) propose a useful handbook for negotiating fishing access agreements, addressing their basic principles and key components and proposing model agreements between coastal state and DWF governments or between a coastal state and DWF industry.

Annex I: Key international instruments related to fisheries management

Binding Agreements:

- ✓ United Nations Convention on the Law of the Sea (UNCLOS)[137]
- ✓ Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (the UN Fish Stocks Agreement: UNFSA, 1995)[138]
- ✓ Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (FAO Compliance Agreement, 1993)[139]
- ✓ Agreement on Port State Measures to prevent, deter and eliminate illegal, unreported and unregulated fishing (FAO Agreement on Port State Measures (PSMA), 2009)[140]
- ✓ Convention on Biological Diversity (CBD)[141]
- ✓ Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)[142]
- ✓ WTO Agreement on Fisheries Subsidies (2022)[143]

"Soft law" instruments:

- ✓ FAO Code of Conduct for Responsible Fisheries (Rome, 1995)
- ✓ FAO International Plan of Action (IPoA) for the Management of Fishing Capacity (Rome, 1999) and International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (Rome, 2001)
- ✓ The Reykjavik Declaration on Responsible Fisheries in the Marine Ecosystem (Reykjavik, 2001)
- ✓ FAO Strategy for Improving Information on Status and Trends for Capture Fisheries (Rome, 2003)
- ✓ International Guidelines for the Management of Deep-sea Fisheries in the High Seas (Rome, 2008)
- ✓ Guidelines for the Eco-labelling of Fish and Fishery Products from Marine Capture Fisheries (Rome, 2009)
- ✓ Voluntary Guidelines for flag State performance (Rome, 2014)
- ✓ Voluntary Guidelines for Catch Documentation Schemes (Rome, 2017)
- ✓ 2021 FAO Committee on Fisheries, COFI, Declaration for Sustainable Fisheries and Aquaculture (Rome, 2021)
- ✓ Voluntary Guidelines for Transshipment (Rome, 2022)
- ✓ Global Record of Fishing Vessels, Refrigerated Transport Vessels and Supply Vessels (Repository: Global Record, 2016)

[137] Montego Bay, 10 December 1982 (entry into force 16 November 1994), UN Treaty Series vol. 1833, No. 31363.

[138] New York, 4 August 1995 (entry into force 11 December 2001), UN Treaty Series vol. 2167, p. 3.

[139] Rome, 14 November 1993 (entry into force 24 April 2003), UN Treaty Series vol. 2221, p. 91.

[140] Rome, 22 November 2009 (entry into force 5 June 2016), UN Treaty Series vol. 3161.

[141] Rio de Janeiro, 5 June 1992 (entry into force 29 December 1993), UN Treaty Series, vol. 1760, p. 79.

[142] Washington, 3 March 1973 (entry into force 1 July 1975), UN Treaty Series, vol. 993, p. 243.

[143] Agreement on Fisheries Subsidies, Ministerial Decision of 17 June 2022 (WT/MIN(22)/33, WT/L/1144).

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