SUSTAINABLE SEAS? ASSESSING COMMITMENTS AND IMPLICATIONS OF THE WTO FISHERIES SUBSIDIES AGREEMENT

Julien Chaisse, Debashis Chakraborty & Animesh Kumar*

ABSTRACT

This article provides an interdisciplinary analysis of the World Trade Organization (hereinafter "WTO") Agreement on Fisheries Subsidies (hereinafter "AFS"), framing it as a pivotal yet complex advance in global efforts to address overfishing. It integrates insights from international economics and international trade law to examine the agreement's key provisions. These include the prohibition of subsidies that promote Illegal, Unreported, and Unregulated fishing, the targeting of overfished stocks, and the regulation of high seas fishing activities. The analysis further explores AFS's commitment to transparency and accountability, underscored by the implementation of the WTO dispute settlement mechanism and the inclusion of specific provisions for developing countries. Moreover, the article assesses the agreement's potential to catalyze fisheries reform, its congruence with the United Nations Sustainable Development Goals, and the essential role of continued

* Julien Chaisse is a Professor at the City University of Hong Kong (CityU), School of Law. Debashis Chakraborty is Professor of Economics at the Indian Institute of Foreign Trade, and Animesh Kumar is an Assistant Professor at the Centre for Research in International Trade, Indian Institute of Foreign Trade. The authors extend their sincere gratitude to all participants of the Conference on the "Architecture of the Fisheries Subsidies Agreement: Sustainability, Faithful Implementation, and Beyond," hosted by the Asian Center for the WTO and International Health Law and Policy, NTU College of Law (ACWH), held on 18-19 Sept. 2023. Additionally, they express sincere appreciation to the anonymous peer reviewers for their outstanding and constructive feedback on the draft, which greatly contributed to the finalization of the article. The opinions expressed herein are solely those of the authors.

cross-sector collaboration in safeguarding marine ecosystems and curtailing overfishing.

KEYWORDS: *sustainable fisheries, marine ecosystems, enforcement challenges, socio-economic disparities, global collaboration, fisheries subsidies*

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I. INTRODUCTION

The World Trade Organization's (hereinafter "WTO") Agreement on Fisheries Subsidies (hereinafter "AFS"), culminating from the lengthy discussions of the Doha Round to its final realization at the 12th Ministerial Conference (hereinafter "MC12") in 2022, epitomizes the international community's commitment to ocean sustainability.[1] The AFS constitutes the most important understanding reached among WTO Member countries in recent times after the agreement on Trade Facilitation provisions in 2017. As the blue heart of our planet, oceans have long borne witness to the detrimental effects of overfishing, primarily propelled by state-sponsored subsidies to the fisheries sector.[2] These subsidies, albeit designed for

[1] *See generally* World Trade Organization [hereinafter WTO], Ministerial Decision of 17 June 2022: Agreement on Fisheries Subsidies, WTO Doc. WT/MIN(22)/33, WT/L/1144 (2022).
[2] *See generally* Chen-Ju Chen, *Current Developments of Fisheries Subsidies Regulations After the Failure of WTO Doha Round Negotiations with a Focus on the Asia-Pacific Region*, 17(1) ASIAN J.

economic growth, have inadvertently intensified Illegal, Unreported, and Unregulated (hereinafter "IUU") fishing activities, precipitating grave threats to marine biodiversity, undermining the rights of local fishing communities, and disrupting the global balance of trade.

Drawing inspiration from Sustainable Development Goal (hereinafter "SDG") 14.6, which emphasizes the curbing of harmful fisheries subsidies, the AFS presents a pioneering framework to ensure that the vast, interconnected waters of our globe remain a sustainable resource for the future generations.[3] The agreement seeks to strike a balance between the economic aspirations of nations and the imperatives of marine conservation.[4] It ventures into uncharted territories, attempting to bridge the intersection of maritime trade regulations, ecological conservation, and socio-economic realities of fishing communities worldwide. This agreement can be considered the culmination of a long chain of discussions under the WTO that started in 1996 with reference to the Committee on Trade and Environment to cover fisheries subsidies, considering their potentially environmentally harmful aspects.[5] In this context, the explicit mention of overfishing in the text of the AFS indirectly mainstream the environmental provisions in the WTO framework for the first time, despite the long-standing objections of developing countries to this effect.[6] From this perspective, the long-term importance of this agreement goes well beyond in-print coverage.

In the following sections, this article adopts a methodical approach to unpack the intricacies of AFS. Initially, the article analyzes the historical backdrop, tracing the evolution of discussions from Doha to MC12 and capturing the ebb and flow of multilateral negotiations. Subsequently, the article casts a critical lens on the agreement's core tenets, emphasizing the prohibition of harmful fisheries subsidies and their implications. This is

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WTO & INT'L HEALTH L & POL'Y 41 (2022); David K. Schorr, *Healthy Fisheries, Sustainable Trade: Crafting New Rules on Fishing Subsidies in the World Trade Organization*, WORLD WILDLIFE FUND, INC. [hereinafter WWF] (2004), https://www.wto.org/english/forums_e/ngo_e/posp43_wwf_e.pdf. The detailed sampling of quotations from various governmental, intergovernmental, and other authorities who in recent years have concluded that fishing subsidies can and often do contribute to fishing overcapacity, overfishing, and resource depletion; *see generally* Daniel J. Skerritt et al., *Mapping the Unjust Global Distribution of Harmful Fisheries Subsidies*, 152 (105611) MARINE POL'Y 1 (2023).

[3] *Goal 14 Life Below Water*, U.N. CONF. TRADE & DEV. [hereinafter UNCTAD], https://stats.unctad.org/Dgff2016/planet/goal14/target_14_6.html (last visited Mar. 10, 2024); U.N. Conf. Trade & Dev., *The Oceans Economy: Opportunities and Challenges for Small Island Developing States*, U.N. Doc. UNCTAD/DITC/TED/2014/5 (2014).

[4] Seung Wha Chang, *WTO Disciplines on Fisheries Subsidies: A Historic Step Towards Sustainability?*, 6(4) J. INT'L ECON. L. 879, 879 (2003).

[5] Mitchell Lennan & Stephanie Switzer, *Agreement on Fisheries Subsidies*, 38 INT'L J. MARINE & COASTAL L. 161, 166-67 (2023).

[6] José María Figueres Olsen et al., *Trade and Environment at the World Trade Organization: The Need for a Constructive Dialogue*, *in* THE ROLE OF THE WORLD TRADE ORGANIZATION IN GLOBAL GOVERNANCE 155, 159-60 (Gary P. Sampson ed., 2001).

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complemented by an analysis of the AFS's gaps and challenges, in which the article identifies ambiguous provisions, potential loopholes, and areas yet to be broached in future negotiations. Drawing on this conclusion, the article pivots to a discussion on the mechanisms of implementation and compliance, examining the responsibilities and expectations bestowed on member countries. Furthermore, this article analyzes the challenges and opportunities that arise in the process of actualizing AFS.

II. EXPLORING FISHERIES SUBSIDIES AND OCEAN SUSTAINABILITY IN THE AFS CONTEXT

Sustainability of marine ecosystems relies heavily on effectively managing and ensuring the sustainability of fisheries. With increasing international attention on ocean sustainability, rights of fishing communities, and dynamics of global maritime trade, there is a pressing need to address and reduce harmful subsidies in the fishing industry.[7] These subsidies, while providing short-term economic benefits to recipients, have long-term consequences for marine life, the livelihoods of fishing communities, and the overall trade balance.

Initially, the AFS included a broad prohibition (or "blanket prohibition") to subsidize fishing activities conducted beyond the jurisdiction of coastal states or outside the competence of relevant Regional Fisheries Management Organizations (hereinafter "RFMOs").[8] This prohibition aimed to put an end to industrial fishing in the high seas, which was made economically viable only through subsidies.[9] However, as discussions evolved from 2021 to 2022, the scope of this blanket prohibition narrowed significantly.

The significance of this reduction lies in the fact that AFS no longer contains a comprehensive and obligatory ban on such subsidies. Instead, it takes a more programmatic approach, urging members to exercise "due restraint" when granting subsidies to vessels not under their flag or with uncertain stock status. This change meant that there was no longer a clear and enforceable prohibition against these subsidies.

Although the final agreement may not satisfy those who advocated for a strong mandatory ban, it does not dismiss the conversation about taking measures against overcapacity and overfishing.[10] Essentially, the downgrade means that the AFS now establishes a minimum standard, and future

[7] *See generally* INTERNATIONAL MONETARY FUND [IMF] ET AL., SUBSIDIES, TRADE, AND INTERNATIONAL COOPERATION (2022).
[8] Chen, *supra* note 2, at 45.
[9] Negotiating Group on Rules, *Fisheries Subsidies: Draft Consolidated Chair Text - Communication from the Chair*, art. 5.5, WTO Doc. TN/RL/W/276 (May 11, 2021).
[10] WTO, THE WTO AGREEMENT ON FISHERIES SUBSIDIES: WHAT IT DOES AND WHAT COMES NEXT (2022); WTO, IMPLEMENTATION OF THE WTO AGREEMENT ON AGRICULTURE: CHALLENGES AND OPPORTUNITIES FOR DEVELOPING AND LEAST-DEVELOPED COUNTRY MEMBERS 6-9 (2022).

discussions will concentrate on identifying specific types of subsidies that should be prohibited due to their distorting effects on trade and proven environmental impacts, such as fuel subsidies. This section offers a comprehensive analysis of the prohibitions outlined by the AFS concerning these concerns.

A. Prohibitions on IUU Fishing Subsidies: A Detailed Analysis

IUU fishing has long been a significant concern among various ocean-related issues related to marine sustainability, fishing community rights, and international maritime trade. A comprehensive expanded definition of IUU activities was adopted from Paragraph 3 of the 2001 International Plan of Action to Prevent, Deter, and Eliminate Illegal, Unreported, and Unregulated Fishing by the UN Food and Agriculture Organization (hereinafter "FAO"), thus strengthening the normative impact of the definition.[11] Herein, illegal fishing activities are those conducted in contravention of national and international regulations as well as obligations emanating from RFMOs; unreported fishing refers to contraventions of regulations on reporting of activities; and unregulated fishing refers to the activities carried out in RFMO areas by vessels belonging to states not party to such RFMOs or in areas where no conservation regulations exist in direct contravention of a state's international obligations.[12]

All IUU activities cause severe harm not only to the overall marine ecosystem in terms of stock depletion or pressure on marine wildlife but also to the effective management of fisheries and food security.[13] Because such activities are beyond the purview and control of surveillance mechanisms, accurate assessment of stock quantities is hampered. Pulling on this thread, because fish are consumed by a large population, this unorganized depletion of fishing stocks could aggravate economic hardship and increase the threat to food security. FAO estimates reveal that IUU activities earn around $23 billion per year, which is far beyond regulated trade markets.[14]

Extant research highlights three broad detrimental effects of IUU fishing that can be categorized as follows. *First*, such activities deter global efforts towards sustainable and effective management of fisheries and their

[11] FOOD & AGRIC. ORG. U.N. [hereinafter FAO], INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING (2001). The section (2) along with sub sections highlight upon definition of various Illegal, Unreported and Unregulated [hereinafter IUU] activities.

[12] *Id.* § 3.

[13] Gov'ts Aus., Can., Chile, Namib., N.Z. & U.K., WWF, IUCN & Earth Inst. Columbia Univ., *Closing the Net: Stopping Illegal Fishing on the High Seas*, HIGH SEAS TASK FORCE (2006), https://www.oecd.org/sd-roundtable/papersandpublications/39375276.pdf.

[14] *Countries Meet to Tackle US$23 Billion Illegal Fishing Trade: FAO*, FAO (May 30, 2017), https://www.fao.org/iuu-fishing/news-events/detail/en/c/1113516/.

ecosystems. In addition, both internalized and externalized IUU fishing activities lead to economic losses, as the generated fish catches often fail to realize value chain benefits.[15] *Second*, they affect fair competition and thus impact the economic balance of maritime trade, such that employment prospects have seen a reduction with a parallel decrease in fish stocks. *Third*, they propel the diversification of various criminal activities and exacerbate human rights violations because of their pecuniary-driven motives. Such motives involve the adoption of severe cost-cutting methods such as the exploitative hiring of children and undocumented laborers through human trafficking channels.[16]

The challenges posed by IUU fishing were long recognized by multilateral bodies [17] and discussed at the trade-environment related multilateral forums (e.g., Doha Ministerial Meeting, 2001; World Summit on Sustainable Development in Johannesburg, 2002). The Hong Kong Ministerial Declaration (2005) underlined the need to enhance mutual cooperation and collaboration on the trade-environment front in general, and the move towards prohibition of certain forms of fisheries subsidies that contribute to overcapacity and overfishing by improving transparency and enforceability in particular.[18] While the need to discipline harmful subsidies was noted, the need to provide Special and Differential Treatment (hereinafter "SDT") for developing countries and least-developed countries (hereinafter "LDCs"), given the presence of subsistence fishing there, was duly acknowledged.

The fisheries subsidy negotiations continued under the Negotiating Group on Rules (hereinafter "NGR"), where WTO Members primarily adopted two broad views. First, the 'Friends of Fish' group embraced a 'Top-down approach,' furthering prohibition on all fisheries subsidies, barring certain exemptions. Supporters of this standpoint included both high-income (Australia, Chile, Iceland, New Zealand, Norway, and the US) and developing countries (Argentina, Colombia, Peru, Pakistan). Second, another group led by high-income countries (including Japan, Korea, and Taiwan) adopted a bottom-up approach, calling for allowing all subsidies except certain specifically prohibited ones.[19] While WTO members differed in terms of operational approaches to the question of fisheries subsidy

[15] FAO Comm. Fisheries, *Illegal, Unreported, and Unregulated (IUU) Fishing, The Agreement on Port State Measures (PSMA) and Trade-Related Issues*, at 3, FAO Doc. COFI:FT/XIX/2023/7 (Sept. 11-15, 2023).

[16] Brandt Wagner & William Kemp, *Truly Sustainable*, ICSF (2017), https://www.icsf.net/wp-content/uploads/2021/06/267_Samudra-Report-No-77-September-2017.pdf.

[17] *See generally* FAO, *supra* note 11.

[18] *See generally* WTO, Ministerial Declaration of 18 December 2005, WTO Doc. WT/MIN(05)/DEC (2005).

[19] Frederik Scholaert, *WTO agreement on fisheries subsidies*, EUR. PARLIAMENTARY RSCH. SERV. 6 (2022), https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI(2021)698842_EN.pdf.

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reforms as well as the scale and coverage of the SDT for this sector, a general agreement on the prohibition of subsidies that support capital costs was reached. Accordingly, the Draft Text circulated by the NGR identified a list of fisheries subsidies that are the most trade-distorting (Article 1). It also classifies several support measures as exceptions, given their weak or no influence on trade flows, which might be maintained by countries (Article-2).[20]

Due to differences in the perspectives of WTO Member countries on the question of fisheries subsidies reforms, the negotiations stagnated in the subsequent period.[21] After the launch of the United Nations (hereinafter "UN") SDGs in 2015, Goal 14.6 of the same intended to, "[b]y 2020, prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing, eliminate subsidies that contribute to IUU fishing, and refrain from introducing new subsidies . . . ."[22] Accordingly, the negotiations under the WTO forum intensified, with the Buenos Aires Ministerial declaration (2017) calling for an agreement to "prohibit certain forms of fisheries subsidies that contribute to overcapacity and overfishing and eliminate subsidies that contribute to IUU fishing."[23] The AFS reached MC12 in 2022, marking the culmination of this long negotiation process.

The Agreement on Fisheries Subsidies within Article 3 completely prohibits the grant or maintenance of any subsidies to a vessel or operator for IUU fishing activities.[24] The Agreement stipulates that an "affirmative determination" of such activities being undertaken may be made by a coastal or flag state member or as a relevant RFMO. The prohibition of subsidies begins when the determination satisfies the three-tiered procedural requirement that considers the provision of information exchanges and notifications. The provision also maintains the principle of proportionality in the provision that subsidizing members notified of an affirmative determination must account for the "nature, gravity, and repetition of the IUU fishing" while deciding the duration of the prohibition on subsidies.

[20] Negotiating Group on Rules, *Draft Consolidated Chair Texts of the AD and SCM Agreements*, at 87-89, WTO Doc. TN/RL/W/213 (Nov. 30, 2007).
[21] For details on the negotiating perspective of different countries, see generally Debashis Chakraborty et al., *Doha Round Negotiations on Subsidy and Countervailing Measures: Potential Implications on Trade Flows in Fishery Sector*, 6(1) ASIAN J. WTO & INT'L HEALTH L. & POL'Y 201 (2011).
[22] UNCTAD, *supra* note 3.
[23] WTO, Fisheries Subsidies: Ministerial Decision of 13 December 2017, at 1, WTO Doc. WT/MIN(17)/64, WT/L/1031 (2017).
[24] WTO, Agreement on Fisheries Subsidies: Ministerial Decision of 17 June 2022, at 4-5, WTO Doc. WT/MIN(22)/33, WT/L/1144 (2022).

Moreover, members ensure that their domestic regulations are in place to accommodate the provisions of this agreement.[25]

B. Defining "Overfished" in AFS: Challenges, Livelihoods, and Sustainability

According to the estimates of FAO and other agencies, one-third of global fish stocks are overfished or exploited.[26] These estimates reach a much higher figure if depleted stocks are also accounted for.[27] Article 4 of the AFS prohibits the grant and maintenance of subsidies for fishing activities related to overfished stock.[28] One area of concern is that the agreement does not set in place a quantitative or qualitative definition of what constitutes "overfished". This part has rather been left to the eventual self-determination of the coastal members or the relevant Regional Fisheries Management Organization or Arrangement (hereinafter "RFMO/A") to assess, based on the "best scientific evidence available" for the specific areas or species under their jurisdiction, at a future date. Excluded from the ambit of this provision are those subsidies that are granted for the purpose of rebuilding the stocks to "biologically sustainable levels" (Article 4.3).

The absence of a precise and standardized quantitative or qualitative definition for the term "overfished" in Article 4 of the AFS leaves room for interpretation and has raised concerns within the regulatory framework. As a matter of fact, the lack of a standardized definition for "overfished" stocks introduces regulatory uncertainties. When a member state is granted the flexibility to define what qualifies as an "overfished stock", it opens the door to potential discrepancies in interpretation between different authorities and members. Such ambiguity poses risks to vessel operators, who may face varying regulatory approaches and enforcement measures depending on the divergent interpretations of "overfished" stocks by different entities. For instance, in the case of the European Union, the imprecise definition of what constitutes "surplus" in the Common Fisheries Policy (CFP) has led to several targeted fish species being unlisted within the protocols of member

[25] *See generally* WTO, Agreement on Fisheries Subsidies: Draft Text-Addendum, WTO Doc. WT/MIN(22)/W/20/Add.1 (2022). Article 3.4 concerns the minimum duration of the subsidy prohibition based on an affirmative IUU fishing determination. This article requires the subsidizing Member, in setting the duration of the prohibition resulting from an IUU fishing determination, to consider the nature, gravity and repetition of the IUU fishing that was committed.

[26] Hannah Ritchie & Max Roser, *Fish and Overfishing*, OUR WORLD IN DATA (Oct., 2021) https://ourworldindata.org/fish-and-overfishing.

[27] *Life Below Water: Conserve and Sustainably Use the Oceans, Seas, and Marine Resources for Sustainable Development*, WORLD BANK, https://datatopics.worldbank.org/sdgatlas/archive/2017/SDG-14-life-below-water.html (last visited Mar. 3, 2024).

[28] WTO, *supra* note 24, at 5; *see generally* ALICE TIPPING & TRISTAN IRSCHLINGER, WTO NEGOTIATIONS ON FISHERIES: THE STATE OF PLAY (2020).

states.[29] Given the divergence in the resource base of the member countries and potential differences in the estimation of fish stock, the purview of the term "overfishing" can therefore constitute a potential trade discord. These concerns highlight the need to arrive at clearer and more uniform definitions within the AFS to ensure the effective regulation and enforcement of measures to combat overfishing.

It must be noted that excessive qualification of what constitutes "overfishing" could be highly restrictive for domestic implementation, thereby hampering the livelihoods of the population depending on such subsidies. The balance between the potential issue and counterfactual can be disrupted when there is cooperation and transparency between coastal members and regional authorities. In this context, cooperation and transparency between coastal member states and regional authorities has become paramount. Effective collaboration can lead to the development of well-informed, science-based criteria for identifying overfishing, ensuring that subsidies are directed toward sustainable practices and the protection of marine ecosystems without unduly burdening local fishing communities. This cooperation not only helps in achieving the objectives of the Agreement on Fisheries Subsidies but also supports the broader goal of safeguarding both marine resources and the livelihoods of those who are dependent on them.

However, a positive aspect of this provision is the balance established between fishery management and the promotion of sustainability. The qualitative determination of sustainable levels of stocks is determined by factors such as Maximum Sustainable Yield (hereinafter "MSY"), which accounts for the largest catch of the stock without reduction in overall fishing capacity. There is an alarming need to address the issue of overfishing since it could potentially reduce the per capita consumption of seafood to 18.5 kg by 2050 (which is below the pre-2012 level), thus severely impacting food security, particularly in aquatic-based consumption countries.[30]

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[29] *See generally* Fabio Cevenini et al., *Assessing the Welfare Impacts of Changes in Recreational Fisheries Management: A Modelling Approach for European Sea Bass*, 148(105408) MARINE POL'Y 1 (2023). This practical example underscores the potential for divergent interpretations and implementations of the AFS provisions among different authorities and member states, driven by variations in resource availability and fish stock assessments. The resulting ambiguity surrounding the term "overfishing" has the potential to become a contentious issue in international trade, emphasizing the urgent need for precise definitions and a common understanding to ensure effective fisheries management and foster international cooperation.

[30] FAO, THE STATE OF WORLD FISHERIES AND AQUACULTURE 2022: TOWARDS BLUE TRANSFORMATION (2022), https://www.fao.org/3/cc0461en/cc0461en.pdf. The nature of these projections is not to predict the future, but to provide boundary conditions to enable appropriate action for achieving food and nutrition security. The business-as-usual scenario is considered most plausible by FAO, as it attempts to extrapolate the medium trends estimated by the FAO fish model to 2050.

C. Addressing Overcapacity: Subsidies, Sustainability, and Policy in the AFS

Overcapacity occurs when the fishing fleet's size or harvesting ability exceeds the level considered optimum or sustainable. Simply put, overcapacity refers to going beyond what can be considered as the MSY level. Provision of transfers such as fuel subsidies for instance significantly reduces the variable cost of operations. Transfers of this category, in turn, make it easier for recipients to increase the number of vessels and fish for longer durations in distant waters, which in turn poses risks of overfishing.[31] In this interconnected risk chain, a tailored regulation for disciplining subsidies is necessary to ensure that one issue does not multiply with several others.[32]

The AFS clearly highlights in the preambulatory clauses a recall of the mandate from the 2017 Buenos Aires Ministerial Conference, which prohibits fishery subsidies that contribute to overfishing and *overcapacity.* Additionally, previous drafts of the AFS included regulations prohibiting subsidies contributing to overfishing and *overcapacity*. As underlined in the preceding sections, SDG 14.6 also highlights the need to prohibit transfers that contribute to overcapacity. The November 2021 draft of this agreement contained an explicit list of types of subsidy payments that contributed to the promotion of overcapacity, such as subsidies for equipment and subsidies for fuel.[33] Despite the presence of these factors, the crisp yet comprehensive provisions in this regard could not reach a consensus at the MC12.[34]

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[31] Ussif Rashid Sumaila et al., *Fuel Price Increase, Subsidies, Overcapacity, and Resource Sustainability*, 65 ICES J. MARINE SCI. 832, 832-40 (2008).

[32] For a concise overview of the negotiations on fisheries subsidies during MC11, see *Negotiations on Fisheries Subsidies*, WTO, https://www.wto.org/english/thewto_e/minist_e/mc11_e/briefing_notes_e/bffish_e.htm (last visited Mar. 10, 2024). The concept of overcapacity typically pertains to a fleet's ability to engage in fishing activities that surpass the sustainable catch levels in a given fishery, often due to an excessive number of vessels or fishers involved. It's worth noting that there is no universally agreed-upon method for quantifying this capacity. The FAO has issued warnings that overcapacity frequently leads to issues such as overfishing and IUU fishing. Within the negotiations at the WTO, member countries engage in debates regarding the necessity of regulating subsidies that contribute to overcapacity and discuss potential methods for identifying and addressing such subsidies.

[33] Article 5 of the Draft Agreement mentioned a detailed list of provisions that may potentially lead to creation of overcapacity and overfishing. For details, see WTO, Agreement on Fisheries Subsidies Draft Text, at 4, WTO Doc. WT/MIN(21)/W/5 (2021). The provisions mentioned in Article 5 of the Draft WTO Text on Fisheries Subsidies (dated Nov. 24, 2021) were analogous to the provisions mentioned in the Draft Chairman's Text circulated earlier on November 30, 2007. For details, see Negotiating Group on Rules, *supra* note 20, at 89-91.

[34] WTO, *supra* note 1, at 5. In the Text circulated on June 22, 2022, the Article 5 only mentioned "Other Subsidies", without any explicit reference to any particular form of potentially harmful subsidies.

III. THE AFS FRAMEWORK: CRITICAL ANALYSIS OF AMBIGUITIES AND EXEMPTIONS

The WTO's AFS marks a crucial advance in mitigating harmful subsidy practices affecting global fisheries. Yet, its impact is lessened by certain unclear provisions and exemptions, leading to substantial enforcement challenges. These ambiguities compromise the Agreement's potential to fully achieve its environmental and conservation goals. Moreover, the Agreement must balance the complex relationship between international maritime commerce, conservation imperatives, and the rights of fishing communities. A thorough scrutiny of these dimensions is crucial. It will not only highlight areas for enhancement but also ensure that the AFS remains adaptable and relevant in the face of evolving global fisheries challenges. This section intends to provide a comprehensive analysis of these issues, enhancing understanding of their wider consequences and suggesting pathways for strengthening the Agreement's effectiveness.

A. Ambiguous Provisions: A Closer Look

While the overall agreement is laudable in various aspects for bridging certain gaps that have been going through back-and-forth discussions in the last decade, there are still some aspects that could pose legal challenges. The law suggests that overbreadth in agreements provides scope for arbitrariness, and imprecision leads to vagueness in interpretation. Two major provisions in this regard require further clarification:

First, as discussed above, the term "overfished" in Article 4.2 has been deferred to the autonomous determination of coastal members or the relevant RFMO of that area.[35] However, this issue stems from the fact that there is no universally accepted definition for overfished stocks because of the wide disparity in socio-economic and geological factors between countries. Evidence from the literature indicates that, even within a specific geographical region, there is a possible scope for defining overfishing in an alternate manner.[36] The risk in the current adopted provision, which combines a deference mechanism with objective determination through MSY, or "alternate reference points", is that such members have the discretion to bind themselves to their disciplines as and when they decide to declare a given stock as overfished. In the final agreement, the potential

[35] *Id*.; WTO, *supra* note 25, at 9-10.

[36] Pauly Daniel, *Some Definitions of Overfishing Relevant to Coastal Zone Management in Southeast Asia*, 3(1) TROPICAL COASTAL AREA MGMT. 14, 14 (1988). In addition, FAO deliberated on all the relevant aspects including precautionary approach to conservation but provided no unique definition on overfishing. For details, see FAO, CODE OF CONDUCT FOR RESPONSIBLE FISHERIES 19 (1995), https://www.fao.org/3/v9878e/v9878e.pdf.

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arbitrariness resulting from this provision was balanced with the requirement of basing the determination of the *best scientific evidence*.[37]

Under the United Nations Convention on the Law of the Sea, Article 61,[38] it is stipulated that Members assess the scenario using the "best scientific evidence available to the Member". Following the same principle, the current agreement reflects this recognized provision. However, a point for consideration could be that such a determination should be publicly available as the best scientific evidence for *everyone,* and not only what the member chooses to consider. This could serve as an accountability mechanism among the national authorities.

Second, Article 5 broadly signals regulations for other forms of financial transfers under the bracket terminology "other subsidies". Article 5.1 maintains that no Member shall grant subsidies "outside the jurisdiction of a coastal Member or a coastal non-Member and outside the competence of a relevant RFMO/A." Thus, this provision aims to regulate waters beyond the scope of fisheries management or obligations under the law of the seas.[39] The general feature of understanding the nature of such waters, termed as the "high seas", is that data collection is scarce.[40] This provision is laudable in its efforts to employ far-reaching regulations in such areas. However, enforceable regulations such as the implementation of catch limits are required to prevent overexploitation. Given the fact that in the presence of unassessed stocks, the methods for determining catch limits may vary even within regions, arriving at mutually acceptable principles at the multilateral level will not be an easy exercise.[41]

The ambiguity in the AFS in terms of "overfishing" and other provisions, in addition to omission of specific form of subsidies to be regulated, can be viewed through the lenses of incomplete contract theory literature. A trade agreement can be drafted in an incomplete form either by nature or by choice. For instance, the WTO Agreement has often been termed as an incomplete contract among the parties.[42] Several underlying factors can lead to adoption of an incomplete multilateral trade contract. For instance, while arriving at a "complete" contract might be costly (caused by extended period of in-depth negotiations) on one hand, it may end up constraining the

[37] WTO, *supra* note 1, at 5.
[38] United Nations Convention on the Law of the Sea art. 61, Dec. 10, 1982, 1833 U.N.T.S. 397.
[39] WTO, *supra* note 1, at 5. No Member shall grant or maintain subsidies provided to fishing or fishing related activities outside of the jurisdiction of a coastal Member or a coastal non-Member and outside the competence of a relevant Regional Fisheries Management Organization or Arrangement.
[40] Enric Sala et al., *The Economics of Fishing the High Seas*, 4 SCI. ADVANCES 1, 1 (2018).
[41] David Newmana, et al., *Current Methods for Setting Catch Limits for Data-Limited Fish Stocks in the United States*, 164 FISHERIES RSCH. 86, 86 (2015).
[42] *See generally* PETROS MAVROIDIS, THE GENERAL AGREEMENT ON TARIFFS AND TRADE: A COMMENTARY (2005); ROBERT W. STAIGER, A WORLD TRADING SYSTEM FOR THE TWENTY-FIRST CENTURY 120 (2022).

member's domestic policy flexibility on the other.[43] Conscious adoption of ambiguous provisions may therefore result from the failure to reach a common ground owing to concerns over compromise of existing policy flexibility on one hand and acknowledged adaptability of the modest or neutral provisions placed in the agreed upon common minimum agenda on the other.[44] Ambiguity in the contracts is particularly expected when negotiating parties can sense their counterparts possibly withholding certain information (e.g., scientific evidence on depletion of fish stock, distribution of distorting subsidies), to enhance their bargaining position in the future.[45] Arriving at an agreement on trade-environment interlinkage for the first time within the WTO fold, involving both developed and developing countries, is associated with a lot of uncertainty, particularly over any "irreversible damage" and their livelihood consequences. Given this background, the spotted ambiguities in the WTO AFS in its present form can be interpreted as the result of the overcautious approach of member countries, which is likely to improve during subsequent rounds of negotiations, with finalization of reform modalities.

While the principle of incomplete contract is visible in several WTO agreements, they are laced with one potential challenge. For instance, modest commitment levels arising from adoption of an incomplete trade agreement may promote organized domestic interest groups, whose growing bargaining power would prohibit any future discussion on currently non-committed policies (e.g., cost-reducing fisheries subsidies). In that case the long-term outcome would significantly distort market access in general and dampen the spirit of multilateral collaboration in particular.[46] Indeed, the presence of interest groups within the fisheries sector among WTO member countries who are concerned about their operational costs is not uncommon.[47] However, it is anticipated that the existing compliance requirement with SDG 14.6 would function as a counterweight against any regressive development on this front.[48]

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[43] Brian R. Copeland, *Strategic Interaction Among Nations: Negotiable and Non-Negotiable Trade Barriers*, 23(1) CAN. J. ECON. 84, 86 (1990).

[44] WTO, WORLD TRADE REPORT 29 (2009), https://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report09_e.pdf.

[45] *See generally* Henrik Horn et al., *Trade Agreements as Endogenously Incomplete Contracts*, 100(1) AM. ECON. REV. 394 (2010).

[46] *See generally* Daniel Brou & Michele Ruta, *A Commitment Theory of Subsidy Agreements*, 13 B.E. J. ECON. ANALYSIS & POL'Y 239 (2013).

[47] *See generally* Stephanie J. Rickard, *Interests, Institutions, and the Environment: An Examination of Fisheries Subsidies*, 66(2) INT'L STUD. Q. 1 (2022).

[48] It deserves mention that the Draft Text of the "Additional Provisions on Fisheries Subsidies" circulated by the WTO on February 16, 2024 indicated a few categories to be placed for discussions among members, that can be leading to overcapacity and overfishing. *See* WTO, Additional Provisions On Fisheries Subsidies Draft Text, at 1, WTO Doc. WT/MIN(24)/W/10 (2024). The

B. Exemptions in the AFS: Potential Loopholes

Various SDT provisions have been mentioned throughout the length of the agreement. Developing countries face the highest risk of illegal fishing; for instance, such occurrences account for 40% of the reported catches in Africa.[49] However, given the presence of traditional and small-scale fisheries within their territories, developing countries require additional time and resources to manage their subsidy policies, since their prevailing socioeconomic conditions call for increased support from their governments.[50] The withdrawal of fishery subsidies in LDCs and low-income countries might be associated with certain developmental challenges despite several decisive benefits.[51] Subsidies granted by developing countries and LDCs are exempt from the scope of this agreement for a period of two years under Articles 3.8 and 4.1. Additionally, "due restraint" should be exercised by members when such countries are involved.[52]

At first, this provision attempts to reconcile the varied conditions between members. However, the most obvious loophole seems to be the misclassification of certain members and the grant of SDTs to them, which acts as a deterrent to the original aims of the agreement. It has long been debated whether the WTO's classification of LDCs and developing countries is flawed in terms of the heterogeneity among members to claim such a status.[53] While countries like China have been classified as developing nations, their position as the world's largest subsidizer paints a different picture. Such stark disparities could erode equity in regulations because each member has different subsidy activities, implementation capacities, and historical backgrounds.[54] From a legal standpoint, one possible approach to address these challenges is to consider the principle of "common but

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resemblance of several fisheries-related transfers in the list (e.g., "subsidies to construction, acquisition, maintenance, modernisation, renovation or upgrading of vessels") with the Article 1 subsidies discussed during post-2007 period is a welcome development.

[49] *See generally* WORLD OCEAN REV., THE FUTURE OF FISH – THE FISHERIES OF THE FUTURE (2013). The review explains and emphasizes over the situation off the coast of West Africa is very dire. IUU fishing is believed to account for 40% of all fish captured in this region, the highest level in the world. This is a disaster for the region's already overexploited fish populations. Some IUU vessels fish directly off the coast, in some cases only one kilometre from the coastline, confident that they have no need to fear checks by fisheries control agency or prosecution.

[50] S. K. Mohanty & Pankhuri Gaur, *Fisheries Subsidy Issues Before the MC12: Lessons from the May Text for the July Meeting* 13 (RIS, Discussion Paper No. 264, June, 2021).

[51] *See generally* Aliou Ba et al., *Are Subsidies Still Relevant in West African Artisanal Small Pelagic Fishery? Insights from Long Run Bioeconomic Scenarios*, 146(105294) MARINE POL'Y 1 (2022).

[52] WTO, *supra* note 25, at 9-10.

[53] For details, see General Council, *An Undifferentiated WTO: Self-Declared Development Status Risks Institutional Irrelevance, Communication from the United States*, at 11, WTO Doc. WT/GC/W/757 (Jan. 16, 2019).

[54] Youngjeen Cho, *The Concept of "Developing Countries" in the Context of the WTO Fisheries Subsidies Negotiation*, 9 BEIJING L. REV. 137, 148-50 (2018).

differentiated responsibilities" (hereinafter "CBDR"). The application of the principle of CBDR in AFS would align with the foundational concepts of international environmental law. It emphasizes the shared ambition toward sustainable development while recognizing that countries have varied capabilities and circumstances that should dictate their respective contributions and obligations. This nuanced approach allows for the acknowledgment of the specific hurdles faced by developing countries and LDCs, ensuring the primary objectives of the AFS (which is to prevent overfishing and advance sustainable fisheries management) are maintained.

The utilization of CBDR within the AFS serves to refine the SDT criteria, aiming to extend support specifically to nations that truly lack the capacity to effectively govern their fisheries subsidies. This method seeks to preclude economically potent countries, albeit classified as developing, from exploiting SDT provisions to perpetuate detrimental subsidization practices. Implementing CBDR in this manner does not necessitate renegotiating SDT provisions but could rather inform a more equitable and efficient execution of these provisions, thus preserving the AFS's integrity and its sustainability ambitions.

The function of the CBDR as an interpretative tool in international agreements such as the WTO's AFS is crucial. It provides a guiding framework that assists in the clarification, refinement, or interpretation of the text of the agreement, especially in instances where provisions are vague or susceptible to multiple interpretations. By accounting for the different capacities and responsibilities of countries, particularly concerning SDT, CBDR can significantly enhance the implementation of the agreement in several critical respects:

Eligibility refinement: Through the application of CBDR, the criteria for SDT eligibility can be sharpened to ensure that flexibilities and exemptions are directed towards countries that genuinely need support because of their limited capacity to manage and reform fishery subsidies. This approach prevents nations with considerable economic strength and capabilities, which may still be classified as developing, from leveraging these provisions in a manner that contributes to overfishing.

Enhanced fairness: The introduction of CBDR into fisheries management and conservation efforts promotes a more equitable sharing of responsibilities and burdens among countries. This consideration reflects historical contributions to overfishing and the varied capacities of nations to address these issues.

Targeted support: CBDR enables differentiation between the needs and capabilities of various countries, guiding international support and capacity-building endeavors more accurately. Consequently, CBDR facilitates a more precise direction of assistance, ensuring that resources are deployed where

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they are most critically needed.[55] The significance of this approach extends beyond the mere allocation of resources, embodying a dynamic and adaptable model of global environmental governance. By moving away from a blanket distribution of aid, the CBDR advocates for a proper understanding of developmental and environmental prerequisites, channelling support to countries bereft of essential infrastructure, technological advancements, or financial means to sustainably oversee their fisheries. This targeted strategy is indispensable for empowering countries with limited capacities, catalyzing the establishment of effective governance frameworks that are critical for preserving marine biodiversity, and ensuring equitable access to marine resources. Furthermore, the implementation of CBDR within the fisheries sector would reinforce a more just framework for international cooperation, one that conscientiously recognizes the disparate contributions to and capacities for addressing global fisheries challenges.[56]

Examining China's situation under a CBDR-informed SDT interpretation illustrates the principle's practical implications. Despite being classified as a developing country, China's significant role as the world's largest fisheries subsidizer indicates the necessity for a differentiated approach to its obligations and entitlements under the AFS. In contrast, smaller developing countries or LDCs with genuine capacity limitations might receive more tailored support and leniency, acknowledging their lesser impact on global overfishing and dependence on fisheries for economic development.

CBDR, as an interpretative tool, not only clarifies the purpose of SDT provisions but also ensures that the objectives of the AFS—to curb overfishing and promote sustainable fisheries—are achieved. It establishes a principled basis for the agreement's negotiation and implementation, aligning it with the overarching goals of environmental sustainability and fairness.

In summary, the analysis highlights the need for a nuanced and equitable approach to implementing AFS exemptions in developing countries and LDCs. Balancing the interests of all members while considering their varied capacities and responsibilities is essential for effective enforcement and success of the agreement.

[55] This strategic allocation is particularly beneficial for nations with constrained abilities, fostering an environment where these countries can develop and implement robust fisheries management and conservation strategies essential for the sustainability of marine ecosystems and the well-being of dependent communities.

[56] By prioritizing assistance based on genuine necessity rather than adopting a uniform approach, this methodology markedly amplifies the efficacy of resource distribution. It not only elevates the standards of fairness and equity among nations but also ensures a more proportionate sharing of the responsibilities and advantages associated with sustainable fisheries management.

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C. Future Negotiations: Addressing Uncovered Subsidies

The AFS harbors certain lacunae that warrant scholarly attention. As previously elucidated, the AFS fails to encompass regulations pertaining to the issue of "overcapacity". The rationale behind this omission can be traced back to the "development dimension" within WTO deliberations. It is noteworthy that developing nations and LDCs have inherent developmental imperatives that necessitate the augmentation of their fishing capacity while concurrently ensuring the preservation of food security. Although MC12 has not definitively concluded discussions on this particular matter, it has been adjourned for future consideration. In anticipation of such discourse, it is imperative to deliberate upon the potential adoption of region-specific differential treatment juxtaposed with a comprehensive approach.

From a legal perspective, the issue of unassessed stocks within the AFS introduces complexities related to the precautionary approach, impact on small-scale fisheries, and need for stakeholder engagement in decision-making.

First, the debate on automatically deeming unassessed stocks as overfished stocks to prohibit subsidies requires considering the precautionary principle. The precautionary principle, fundamental to environmental management, advocates for preventive action when scientific evidence about the health of fish stocks is uncertain to avoid possible overfishing. However, its adoption within the WTO's legal structure, particularly in the context of jurisprudence, faces cautious acceptance, which may impact its application to unassessed fish stocks.[57] The WTO's Agreement on the Application of Sanitary and Phytosanitary Measures (hereinafter "SPS") Agreement requires that measures restricting trade to protect human, animal, or plant life or health should be based on scientific evidence, potentially limiting the application of the precautionary principle

[57] This reserved acceptance of the precautionary principle in WTO laws, especially under Agreement on the Application of Sanitary and Phytosanitary Measures [hereinafter SPS] standards, arises from its potential conflict with the WTO's preference for decisions based on solid evidence rather than preventive measures without complete scientific certainty. *See generally* Denise Prévost, *Disciplining Health Regulations through the World Trade Organization's Agreement on the Application of Sanitary and Phytosanitary Measures: Science and the Rule of Law*, 14(4) EUR. J. RISK REGUL. 1 (2023). (The SPS Agreement allows for provisional measures based on the best available information in scenarios of insufficient scientific evidence, but it insists that these measures be reviewed against further information for a more objective assessment of risk and adjusted within a reasonable time). *See generally* Margherita Melillo, *Standards of Scientific Evidence in Preferential Trade Agreements*, 25 J. INT'L ECON. L. 369 (2022) (Discussing the evolving role of scientific evidence in preferential trade agreements, highlighting how both the European Union and the United States are incorporating more stringent standards in recent Preferential Trade Arrangements, extending beyond traditional WTO provisions like the SPS Agreement to address complex scientific questions in areas such as regulatory cooperation, environment, and labor).

in situations where definitive scientific evidence is lacking.[58] This approach seeks to balance the protection of life and health with the risk of these measures becoming unjustifiable barriers to international trade. Given the cautious stance of the WTO towards the precautionary principle, especially within its SPS jurisprudence, which emphasizes the need for scientific evidence to justify trade-restrictive measures aimed at protecting human, animal, or plant life or health, such stance could indeed affect the borrowing of the precautionary principle to address the issue of unassessed fish stocks. The WTO's preference for solid scientific evidence over preventive measures without complete scientific certainty suggests that applying the precautionary principle to unassessed stocks, in the absence of detailed scientific assessments, might face significant challenges. This preference is likely to limit the flexibility of the AFS in adopting precautionary measures for unassessed stocks, potentially hindering effective action in the face of uncertainty regarding the health of these stocks.

Second, the example of fish-aggregating devices (hereinafter "FADs") used by artisanal fisheries in Small Island Developing States (SIDS) highlights the complexity of the issue. Although FADs may enhance catch rates, they can also lead to unintended consequences, such as the capture of juvenile fish and non-target species, which can harm long-term sustainability.[59] The legal analysis here involves weighing the benefits of increased catch against potential ecological and economic drawbacks, and determining whether restrictions or regulations are necessary to mitigate these adverse effects.

Furthermore, future considerations regarding unassessed stocks must prioritize inclusivity and engagement with all relevant stakeholders. This is crucial to ensure that decisions regarding the treatment of unassessed stocks within the AFS are fair and transparent, and consider the diverse interests of coastal communities, small-scale fisheries, and other affected parties.[60]

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[58] WTO Appellate Body's decisions reflect this careful balance, evaluating the sufficiency and relevance of scientific evidence supporting SPS measures and establishing strict criteria for the application of the precautionary principle. *See generally* Ellen Hey, *Considerations Regarding the Hormones Case, the Precautionary Principle and International Dispute Settlement Procedures*, 13 LEIDEN J. INT'L L. 239 (2000). For example, the EC — Hormones case highlighted the WTO members' right to set their own protection level, including taking preventive measures in the face of scientific uncertainty, but also emphasized the need for these measures to be based on a risk assessment as specified in the SPS Agreement. *See generally* Elisa Vecchione, *Is It Possible to Provide Evidence of Insufficient Evidence? The Precautionary Principle at the WTO*, 13(1) CHI. J. INT'L L. 153 (2012).

[59] *See generally* Agustinus Anung Widodo et al., *Developing Indicators to Detect the Use of Fish-Aggregating Devices*, 74(6) MARINE & FRESHWATER RSCH. 535 (2023).

[60] Inclusivity and stakeholder engagement in fisheries management have been recognized as essential components of effective decision-making. Examples from international fisheries agreements, such as the Convention on Biological Diversity [hereinafter CBD] and the Code of Conduct for Responsible Fisheries [hereinafter CCRF], emphasize the importance of involving various

Legal mechanisms for stakeholder consultation and participation should be a fundamental aspect of any decision-making process related to unassessed stock.

IV. IMPLEMENTING THE AFS: DYNAMICS, CHALLENGES, AND PROSPECTS

This section scrutinizes the enforcement mechanisms under the AFS, revealing significant challenges in ensuring consistent compliance across member countries. The AFS, while a milestone in international fisheries management, faces practical difficulties owing to ambiguities in its provisions. These ambiguities often lead to divergent interpretations and enforcement strategies, which, in turn, impact the effectiveness of AFS in achieving its intended goals.[61]

Furthermore, the lack of clear, universally accepted enforcement mechanisms exacerbates these challenges, resulting in uneven compliance and effectiveness across nations. Different countries possess varying capacities and resources to implement and enforce the provisions of the AFS, leading to uneven compliance and effectiveness. This disparity not only hinders the uniform application of AFS but also raises concerns about the fairness and equity of the measures.

A. Requirements for Member Countries

From a legal perspective, procedural requirements embedded within the AFS play a key role in shaping the agreement's implementation and effectiveness.[62] These requirements not only promote transparency, but also signify a significant departure from previous WTO agreements on subsidies in terms of precision and detail in implementation.

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stakeholders. For instance, the CBD's Aichi Target 11 calls for at least 10% of coastal and marine areas to be conserved through effectively and equitably managed marine protected areas [MPAs] by 2020. Achieving this target necessitates consultation with indigenous and local communities who often rely on these areas for their livelihoods. Similarly, the CCRF, developed by the FAO, underscores the need for broad stakeholder participation in fisheries management. It recommends involving fishing communities, non-governmental organizations, and other interested parties in decision-making processes to ensure the sustainability of fisheries resources and the protection of the rights and interests of those dependent on them. These examples highlight that stakeholder engagement is not only a best practice but also a recognized principle in various international agreements and frameworks. In the context of the AFS and unassessed stocks, it is crucial to draw on these precedents to establish robust legal mechanisms for consultation and participation, ensuring a fair and inclusive approach to addressing this complex issue.

[61] *Implementing the WTO Agreement on Fisheries Subsidies*, WTO (2022), https://www.wto.org/english/res_e/booksp_e/implementfishagreement22_e.pdf.

[62] *Fisheries Subsidies Negotiation*, WTO (Nov. 8, 2021), https://www.wto.org/english/news_e/news21_e/fish_08nov21_e.htm.

First, the AFS aligns with the broader framework established by the Agreement on Subsidies and Countervailing Measures (ASCM). It mandates that member countries notify subsidies falling under the AFS provisions. This notification requirement is crucial, as it facilitates transparency by compelling member nations to disclose information about the subsidies they provide. In the context of fisheries, this ensures that subsidies with the potential to distort trade and contribute to overfishing are brought to the open, allowing other WTO members to assess their compatibility with the agreement's objectives.

Moreover, Article 8 of the AFS introduces a notification-based mechanism aimed at creating a robust surveillance system to monitor the commitments made by member countries.[63] Article 8 of the AFS mandates a notification-based mechanism to build effective surveillance of the various commitments undertaken by members. Further, the establishment of a Committee on Fisheries Subsidies has been created to continually review the implementation of the Agreement. Articles 8.3 and 8.4 specifically highlight the need for Members to inform the Committee of implementation measures that have been adopted and provide a description of the domestic fisheries policies in reference to laws, administrative procedures, and regulations. This mechanism enhances accountability and transparency by obligating member states to inform the Committee on Fisheries Subsidies about the measures they have adopted to implement the agreement. Additionally, it necessitates member nations to provide comprehensive descriptions of their domestic fisheries policies, encompassing laws, administrative procedures, and regulations. This level of detailed information exchange empowers the international community to evaluate the extent to which countries align their policies with the AFS's principles and goals.

What distinguishes AFS from its predecessors is its approach to implementation. The combination of stringent notification requirements, the establishment of the dedicated Committee on Fisheries Subsidies, and the emphasis on the detailed disclosure of domestic fisheries policies showcases a collective commitment among WTO member countries to comprehensively address the unique challenges associated with fisheries subsidies.

B. Overcoming Implementation Challenges: An Analysis

The effective implementation of AFS hinges on addressing the numerous challenges that have emerged during its application. To overcome these hurdles and advance the goals of sustainable fisheries management, a

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[63] WTO, *supra* note 1, at 6-7.

multifaceted approach that draws from both legal and economic insights is required.

From a legal perspective, a critical consideration is the need for precise and unambiguous language within AFS. Clear and well-defined terms and provisions are vital for preventing misinterpretation and disputes. Ambiguities can lead to challenges in enforcement, potentially undermining the effectiveness of an agreement. Therefore, future discussions should prioritize improving the textual language of the agreement. Legal experts and negotiators should work collaboratively to refine and clarify provisions, leaving less room for ambiguity and divergent interpretations.

Moreover, strengthening domestic legislation requirements is essential to ensure compliance with the AFS. While international agreements have set overarching principles, practical implementation often falls within the purview of national legal systems. Countries must develop robust and enforceable domestic laws that align with AFS obligations. Strengthening domestic legislation not only promotes adherence to international commitments, but also facilitates effective enforcement at the national level, ultimately contributing to the achievement of AFS objectives.

Economically speaking, a key challenge is reconciling the varying socioeconomic backgrounds and capacities of the member countries.[64] The AFS affects nations with diverse fisheries industries, ranging from small-scale artisanal fisheries to large-scale industrial operations. Striking the balance between these interests is crucial. Future discussions should involve stakeholders most affected by gaps and loopholes within the agreement, focusing on improving the clarity of the agreement's language, strengthening domestic legislation requirements, and fostering greater cooperation among countries of varying socioeconomic backgrounds. This includes considering the differential impact of subsidy reduction on different segments of the fishing industry and addressing the potential transitional challenges faced by less economically developed countries.

To effectively tackle these issues, a deeper level of stakeholder involvement is indispensable. Incomplete discussions with those most affected by the agreement have contributed to several challenges. Engaging all relevant stakeholders, including fishing communities, environmental organizations, and industry representatives, will not only provide diverse perspectives, but also enhance the legitimacy and acceptance of AFS.

In conclusion, overcoming the implementation challenges of AFS requires a holistic approach that integrates legal and economic considerations. Clear and precise language, strengthened domestic legislation, and enhanced cooperation are essential elements. Furthermore,

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[64] Stephanie Switzer & Mitchell Lennan, *The WTO's Agreement on Fisheries Subsidies. It's Good but It's Not Quite Right*, ONE OCEAN HUB (June 23, 2022), https://oneoceanhub.org/the-wtos-agreement-on-fisheries-subsidies-its-good-but-its-not-quite-right/.

active stakeholder engagement and recognition of the unique circumstances of member countries are crucial for ensuring the agreement's success in promoting sustainable fisheries and marine ecosystem preservation, while upholding legal and economic principles.

V. FUTURE TRAJECTORIES: COUNTRY RESPONSES, TRADE, AND UPCOMING CHALLENGES

Given their substantial impact on marine ecosystem sustainability, the future of fishery subsidies requires immediate attention. This underscores the inextricable link between current choices and the fate of the oceans. While substantial challenges lie ahead, an informed perspective empowers stakeholders to chart a course toward a more sustainable and equitable future for global fisheries. This section provides an up-to-date overview of fisheries product exports, distinguishing between developed and developing countries. Key players in this complex trade network have been identified, many of whom also benefit from fishery subsidies. Anticipating the challenges likely to confront negotiations on fishery subsidies is essential as we look ahead. Subsidies are categorized as "capacity-enhancing", "beneficial" or "ambiguous", and their potential implications are examined. This section provides policymakers and stakeholders with the necessary insights to effectively navigate the intricacies and obstacles to future negotiations.

A. Country-Specific Fisheries Subsidies Scenarios

To consider the success of the discussion for disciplining fishery subsidies from the right perspective, a look into the country-wise scenario is important. A summarized account of the fishery subsidy data, as obtained from the Organization for Economic and Cooperative Development (hereinafter "OECD"), is presented in Table 1. It should be noted that the OECD fisheries subsidy data reporting mechanism evolved over the period. As compared to the Government Financial Transfers (GFT) [65] database in the earlier period, the current data can be obtained from the Fisheries Support Estimate (FSE) database.[66] Interestingly, a declining trend in support was noticed in both databases in many countries. In the pre-WTO days, the provision of capacity-expanding fisheries subsidies was more frequent in developed countries, which provided them with certain advantages in terms

[65] *Government Financial Transfers*, ORG. ECON. COOP. DEV. [hereinafter OECD], https://stats.oecd.org/viewhtml.aspx?datasetcode=FISH_GFT&lang=en (last visited Mar. 10, 2024).
[66] *Fisheries Support Estimate*, OECD, https://stats.oecd.org/Index.aspx?DataSetCode=FFS_INDICATOR_DETAILED%20 (last visited Mar. 10, 2024).

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of augmented fish catches and exports.[67] A similar prevalence of subsidies can be observed even in the recent period in the case of several high-income countries, namely Canada, Japan, Norway, and the US. The recent periods are also marked by considerable devolution of subsidies in a number of upper-middle-income developing countries, such as Mexico. A look at the regional distribution reveals that the major countries offering financial transfers on this account are located in North America (Canada, Mexico, US), Europe (Denmark, Italy, Norway, Sweden), Asia (Japan, South Korea), and Oceania (Australia, New Zealand). While Asian countries (e.g., China, India, Indonesia, and Malaysia) also provide subsidies, their devolution and composition vary widely.

TABLE 1: Provision of Fisheries Subsidies: Country-Wise Scenario (USD Billion)

Country	Government Financial Transfers				Average Fisheries Support Estimate	
	1996	2000	2003	2006	2011-15	2016-20
Australia	37.39	82.27	95.56	89.99	202.33	132.65
Belgium	4.97	6.85	1.67	7.76	7.16	11.13
Canada	545.3	564.5	589.98	591.00	787.35	848.76
Denmark	85.77	16.32	37.66	113.21	114.64	113.04
Finland	28.98	13.91	20.23	23.4		
France	158.2	166.15	179.74	113.78	66.09	23.13
Germany	81.57	29.83	33.89	30.74	42.27	20.68
Greece	52.31	87.32	119.05	79.59	29.94	14.84
Ireland	112.67	116.67	64.96	29.43	52.99	47.93
Italy	162.63	217.68	149.27	119.24	118.14	89.45
Japan	3186.36	2913.15	2310.74	1985.07	1295.16	1308.95
South Korea	367.79	320.45	495.28	752.15		
Mexico	14.2	96.9	177	89.07	82.40	69.61
Netherlands	39.93	1.39	6.57	21.35	17.76	13.26
New Zealand	37.24	27.27	38.33	38.57	90.51	102.50

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[67] Anthony Cox & Carl-Christian Schmidt, *Subsidies in the OECD Fisheries Sector: A Review of Recent Analysis and Future Directions*, OECD (2002), https://www.oecd.org/greengrowth/fisheries/2507604.pdf.

Norway	172.69	104.56	139.2	159.52	366.77	305.58
Portugal	71.85	25.58	26.93	29.34	13.41	11.76
Spain	246.47	364.1	353.29	425.36	132.76	33.98
Sweden	62.32	25.19	30.65	41.53	109.13	107.76
Turkey	28.67	26.37	16.3	133.88		
United Kingdom	115.36	81.39	82.69	114.66	35.71	36.48
United States	891.16	1037.71	1290.44	2128.81	805.61	995.94

Source: OECD (2009)[68] and OECD (undated)

Table 2 considers the provision of direct subsidies to fishing communities across countries during 2011-15 and 2016-20. As the provision of direct subsidies is more likely to be associated with a reduction in fish stock, their removal can considerably improve the marginal productivity of fishing operations. However, with the continuation of IUU fishing, the fish stock effect may not be realized, and adverse inequality consequences can propagate, even with a reduction in overall fishery subsidies.[69] It is observed from the table that while the provision of average direct subsidies has declined in a number of developed countries (Australia, Denmark, and Spain), the corresponding figure has increased in several other countries (Canada, Poland, South Korea, and the US). Similarly, while several developing countries have witnessed a decline in direct subsidies (Malaysia and Mexico), evidence to the contrary is not uncommon (Brazil, India, and Vietnam). Finally, the second column of the table sorts out the countries in terms of the percentage change in the average direct-to-total subsidy ratio over the two periods, which is self-explanatory. While countries at the top have witnessed a decline in the ratio, the scenario for their counterparts at the lower end is an area of concern. The scenario is then matched with the compliance status of the countries with their UN SDG 14.6.1 target[70] in the last column, by assessing the FAO resources.[71] It is observed that a number of countries cutting across development profiles have increased the proportional importance of direct subsidies in their disbursement patterns.

[68] *Fact Book 2009: Economic, Environmental and Social Statistics*, OECD 229 (2009), https://www.oecd-ilibrary.org/docserver/factbook-2009-en.pdf?expires=1709367843&id=id&accname=ocid53016431a&checksum=516A382ABDC8505FA0199D59414714A7.

[69] *See generally* José-María Da-Rochaa et al., *The Social Cost of Fishery Subsidy Reforms*, 83 MARINE POL'Y 236 (2017).

[70] Indicator 14.6.1 covers the "Progress by countries in the degree of implementation of international instruments aiming to combat illegal, unreported and unregulated fishing." For details, see *SDG Indicators Data Portal*, FAO, https://www.fao.org/sustainable-development-goals-data-portal/data/Indicators/1461-illegal-unreported-unregulated-fishing/en (last visited Mar. 10, 2024).

[71] *SDG Progress Assessment*, FAO, https://www.fao.org/sustainable-development-goals-data-portal/data/ (last visited Mar. 10, 2024).

Interestingly, a similar trend is noticed in countries that have already complied with their SDG obligations. In particular, a growing trend in this ratio for a mix of developed and developing countries might be a challenge during future negotiations on fishery subsidies.

TABLE 2: Composition of Fisheries Subsidies and UN SDG Compliance Scenario

Countries	Average Direct Subsides (USD Billion)		Average Direct-to-Total Subsides Ratio (%)		Change in Average Direct-to-Total Subsides Ratio (%)	UN SDG 14.6.1 Compliance Scenario
	2011-15	2016-20	2011-15	2016-20		
Indonesia	72.33	5.39	100.00	26.67	-73.33	Target Met
France	50.70	0.99	61.14	3.69	-57.45	Target Met
Korea, Republic of	117.11	130.22	100.00	43.17	-56.83	Data not available
Ireland	16.02	2.36	45.70	5.20	-40.51	Target Met
Belgium	9.19	2.22	53.12	16.78	-36.34	Target Met
Spain	124.70	16.86	63.46	32.10	-31.36	Target Met
Colombia	5.81	2.42	51.68	26.14	-25.54	Moderate distance to Target
Argentina	9.56	0.00	19.44	0.00	-19.44	Data not available
Costa Rica	23.40	22.75	75.31	58.79	-16.52	Target Met
Italy	83.70	56.66	56.09	41.50	-14.58	Target Met
Iceland	12.66	0.00	11.61	0.00	-11.61	Target Met
Mexico	182.70	123.96	94.70	83.87	-10.83	Close to Target
Türkiye	106.01	86.91	42.91	34.98	-7.93	Close to Target
Estonia	5.12	2.84	27.71	20.37	-7.34	Target Met
China	9421.85	6452.05	94.15	87.85	-6.30	Moderate distance to Target
Peru	5.82	2.46	7.88	1.78	-6.11	Close to Target

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Malaysia	738.40	26.19	99.77	96.25	-3.52	Moderate distance to Target
Denmark	92.33	90.77	46.12	43.99	-2.13	Target Met
Sweden	81.00	78.93	41.90	40.03	-1.87	Target Met
Chile	11.07	11.89	44.43	43.08	-1.36	Target Met
Australia	12.63	6.62	4.61	3.59	-1.03	Target Met
Philippines	0.01	0.00	18.64	18.11	-0.53	Close to Target
Canada	478.72	498.79	30.33	29.81	-0.51	Target Met
Slovenia	0.69	0.51	14.62	14.42	-0.19	Target Met
New Zealand	0.00	0.00	0.00	0.00	0.00	Data not available
Japan	5.60	21.71	0.72	0.93	0.21	Target Met
Norway	248.24	213.34	37.48	40.14	2.66	Close to Target
India	129.09	327.08	52.69	55.74	3.06	Close to Target
Greece	18.32	11.80	56.13	60.43	4.29	Target Met
Lithuania	1.66	5.00	25.56	30.51	4.94	Target Met
Latvia	0.45	2.38	20.94	26.76	5.82	Target Met
United Kingdom	10.35	20.41	18.93	29.03	10.10	Close to Target
Germany	0.60	3.29	2.71	13.95	11.23	Target Met
Netherlands	3.95	6.11	16.04	27.52	11.48	Target Met
United States of America	37.37	280.14	2.42	14.72	12.29	Data not available
Brazil	1191.78	1202.79	82.68	97.15	14.46	Moderate distance to Target
Taipei, Chinese	20.13	61.28	38.43	54.12	15.69	-
Portugal	20.62	24.31	83.51	100.00	16.49	Target Met
Poland	253.09	366.59	66.32	94.50	28.18	Target Met
Viet Nam	2.57	17.54	1.94	33.20	31.26	Data not available

Source: Constructed by authors from OECD and FAO data

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B. Fisheries Trade: Present State and Future Expectations

A close look in fisheries product[72] export scenario over the last decade, with the help of Table 3, is important in this context. Norway, the US, Canada, Denmark, and Spain are among the major developed country exporters, while China, Vietnam, Thailand, Indonesia, India, and Chile are among the leading exporters of developing countries. It should be noted that a number of developed (Canada, Norway, and the US) as well as developing (e.g., China, India, and Vietnam) countries, which have witnessed a rise in their global footprint in fisheries exports in recent periods, are among the recipients of fishery subsidy programs (Table 2).

TABLE 3: Fishery Exports (USD Billion) of Select Developed and Developing Countries

Developed Countries			Developing Countries		
Countries	2011-15	2016-20	Countries	2011-15	2016-20
Norway	9.43 (9.66)	11.06 (10.19)	China	12.45 (12.76)	12.11 (11.16)
United States	5.12 (5.24)	4.70 (4.33)	Vietnam	5.09 (5.22)	5.74 (5.29)
Canada	3.88 (3.98)	4.56 (4.2)	Thailand	2.38 (2.44)	1.66 (1.53)
Denmark	2.33 (2.39)	2.74 (2.52)	Indonesia	2.76 (2.83)	3.04 (2.8)
Spain	2.96 (3.03)	3.03 (2.79)	India	4.21 (4.31)	5.85 (5.39)
Netherlands	2.86 (2.93)	3.14 (2.89)	Chile	4.02 (4.12)	5.18 (4.77)
United Kingdom	2.07 (2.12)	1.98 (1.85)	Argentina	1.44 (1.48)	1.80 (1.65)
France	1.40 (1.43)	1.31 (1.21)	Russian Federation	2.67 (2.74)	3.62 (3.34)

[72] The current analysis is considering only basic fish products, i.e., HS 3 (fish and crustaceans, molluscs and other aquatic invertebrates), not the processed products, i.e., HS 1604 (prepared or preserved fish; caviar and caviar substitutes prepared from fish eggs; fish, whole or in piece, but not minced). *See Harmonized System*, WORLD CUSTOMS ORG., https://www.wcotradetools.org/en/harmonized-system/search/2022/en?q=%20%40chapter%3A3%20OR%20%40chapter%3A16 (last visited Mar. 10, 2024).

Sweden	3.2 (3.28)	4.30 (3.96)	Ecuador	2.11 (2.16)	3.61 (3.33)
Iceland	1.77 (1.81)	1.82 (1.68)	Mexico	0.84 (0.86)	1.01 (0.92)
Germany	1.67 (1.71)	1.64 (1.51)	Malaysia	0.65 (0.67)	0.50 (0.46)
Korea, Rep.	1.56 (1.6)	1.31 (1.21)			
Australia	0.99 (1.01)	0.97 (0.89)			

Source: Constructed by authors from OECD and FAO data
* Percent Share in World Trade

C. Potential Challenges During Negotiations

The adoption of any fish catch-enhancing strategic interventions (e.g., effort and fleet management subsidies) by a country may result in the depletion of international fish stock.[73] Moreover, the extension of strategic subsidies to supplement domestic players' cost advantage against foreign players may affect a competitor's economic viability and, in turn, lower their business potential.[74] However, a reduction in fishery subsidies in a country may not lead to sustainability benefits if other associated regulations are simultaneously weakened.[75] Therefore, given the diverse effects of different forms of fishery subsidies on the environment, multilateral negotiations need to adopt a cautious and holistic approach, carefully judging the potential impacts of specific instruments on trade as well as sustainability aspects.[76]

It is evident from the earlier discussion that to ensure reduction in IUU fishing, discipline in fisheries subsidies, particularly the sub-components of the direct transfers across member countries, need to be dissected. The AFS discussions in the post-2007 period focused on the identification of subsidies that led to the creation of overcapacity, securing their reporting, and eventual discontinuation. In essence, countries were expected to discontinue all actionable (Article 1) subsidies while retaining non-actionable (Article 2) instruments. However, negotiations in the subsequent period reached a

[73] *See generally* Gorazd Ruseski, *International Fish Wars: The Strategic Roles for Fleet Licensing and Effort Subsidies*, 36 J. ENV'T ECON. & MGM'T 70 (1998).
[74] *See generally* John Quinn & Gorazd Ruseski, *Effort Subsidies and Entry Deterrence in Transboundary Fisheries*, 14(3) NAT. RES. MODELING 369 (2001).
[75] *See generally* Basak Bayramoglu et al., *Trade and Fisheries Subsidies*, 112 J. INT'L ECON. 13 (2018).
[76] *See generally* Yutaro Sakai, *Subsidies, Fisheries Management, and Stock Depletion*, 93(1) LAND ECON. 165 (2017).

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standstill, given the complex distribution and overlapping nature of the reported subsidies.[77]

Given the fact that the finalization of subsidies to be listed in Article 5 has been pushed to negotiate forums at a later date, by considering the reported categories in the OECD Fisheries database, an attempt has been made to identify the potential challenges for that exercise. Fishery subsidies are primarily reported under three categories, namely: "direct support", "support for services", and "payments made by the fisheries sector". Now, the sub-components of these three heads, depending on their potential trade and environmental distortion effects, can be arranged under three classifications, namely: "capacity-enhancing", "beneficial", and "ambiguous". The fishery subsidy sub-components, along with the reported categories and their identified sustainability implications, are summarized in Table 4.

It is observed from Table 4 that although the capacity-enhancing measures are concentrated in the direct support segment, arriving at a definitive conclusion on either of the three reported categories can be difficult because of the possible overlap of their effects. For instance, the repercussions of support under the "miscellaneous direct support to individuals and companies" in this segment can be ambiguous. Similarly, under the "support for services" category, while "education and training" and "resource management expenditures" sub-components constitute beneficial supports, the entries like "capital expenditures" and "subsidized access to infrastructure" might have ambiguous long-term effects on fish catches and environment. Finally, while entries like "payments made by the fisheries sector, for management, research, and enforcement general services" under the third category can be beneficial for the environment; effects of the interventions reported under "support to build port facilities for commercial fishers," might bear ambiguous long-term sustainability repercussions. Future multilateral negotiations need to keep these perspectives in mind, and subsidies must be categorized based on their potential trade and environmental distortion effects to prevent any non-beneficial substitution and reclassification of potentially harmful subsidies among sub-components by countries.

[77] For details, see generally Chakraborty et al., *supra* note 21, which attempted to link the WTO classification of subsidies coming under Article 1 (actionable) and Article 2 (non-actionable) with the OECD classification of reported budget heads (direct payments, cost reducing transfers and general services).

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TABLE 4: Fisheries Subsidies Reform: Potential Challenges

Subsidy Category	Direct Support to Individuals and Companies	Support for Services to the Sector	Payments made by the Fisheries Sector
Capacity-Enhancing	• Transfers based on variable input use • Support to vessel construction/purchase • Support to other fixed costs • Fuel tax concessions • Other tax exemptions		
Beneficial	• Transfers based on the reduction of productive capacity	• Marketing and promotion • Support to fishing communities • Education and training • Research and development • Resource Management expenditures • Stock enhancement programs • Enforcement expenditures	• Payments made by the fisheries sector, for infrastructure access • Payments made by the fisheries sector, for management, research and enforcement
Ambiguous	• Special insurance system for fishers • Income support • Miscellaneous direct support to individuals and companies	• Access to other countries' waters • Provision of infrastructure • Capital expenditures • Subsidized access to infrastructure	• Payments made by the fisheries sector, for resource access rights • Payments made by the fisheries sector, other

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		• Miscellaneous support for services to the sector	

VI. CONCLUSION

The conclusion of the WTO's AFS marks a significant milestone in the global pursuit of sustainable fisheries management and preservation of marine ecosystems. Rooted in the principles of multilateral cooperation, this agreement acknowledges the linkages between international maritime trade dynamics, imperatives of marine conservation, and rights and livelihoods of fishing communities worldwide. However, the ambiguities embedded within AFS provisions may lead to divergent interpretations and enforcement strategies among member countries, hindering its overall effectiveness in achieving its intended environmental and conservation goals. This imbalance raises concerns about the fairness and equity of the implemented measures. To address these compliance challenges and fully realize the potential of AFS in curbing overfishing and promoting sustainable fisheries management globally, concerted efforts are required. Additionally, country-specific scenarios of fishery subsidies and their impact on trade and sustainability underscore the need for nuanced negotiations.

While challenges remain, it is imperative that AFS members seize the opportunity for multilateral cooperation while considering their individual differences. Compulsory capacity-building measures should be enforced, including actions to increase regional stocks and mitigate the risks associated with disproportionate obligations. The complex trade network of fisheries product exports, involving both developed and developing countries, highlights the need for a cautious and holistic approach to negotiations.

However, the potential impact of AFS is lessened by certain unclear provisions and exemptions, leading to substantial enforcement challenges. Addressing these compliance challenges requires concerted efforts to clarify ambiguous provisions and strengthen enforcement mechanisms. This effort should include developing clear guidelines and criteria for implementation, enhancing monitoring and surveillance capacities, and promoting cooperative mechanisms among member countries to ensure a level-playing field. Such measures are imperative for realizing the full potential of AFS in curbing overfishing and promoting sustainable fisheries management globally.

As it stands, the AFS encapsulates both the hopes and challenges of a global endeavor to curb detrimental fishing subsidies. The agreements' provisions, ranging from the prohibition of harmful subsidies to addressing

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ambiguities and potential loopholes, offer a glimpse into the delicate balance the AFS seeks to strike. On the one hand, it endeavors to shield marine ecosystems from the perils of overfishing and overcapacity, while on the other hand, it grapples with the complexities of socioeconomic disparities, developmental imperatives, and the divergent interests of WTO member states. The overarching emphasis on notification, transparency, and effective surveillance, coupled with the establishment of a Committee on Fisheries Subsidies, underscores the paramount importance of continuous engagement, periodic reviews, and constructive feedback. This not only guarantees the agreement's adaptability to evolving global fisheries dynamics, but also reinforces the imperative for member states to remain proactive in fulfilling their commitments.

Fundamentally, the transition from the Doha Round negotiations to the MC12 conference serves as a testament not only to the enduring nature of global collaboration, but also as a resounding call for unwavering commitment and implementation. With the world poised on the precipice of a new era in marine preservation and fisheries administration, the AFS serves as both a source of optimism and a blueprint for the path that lies ahead.

臺大學術期刊資料庫

REFERENCES

Books

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (1995), CODE OF CONDUCT FOR RESPONSIBLE FISHERIES, https://www.fao.org/3/v9878e/v9878e.pdf.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (2001), INTERNATIONAL PLAN OF ACTION TO PREVENT, DETER AND ELIMINATE ILLEGAL, UNREPORTED AND UNREGULATED FISHING.

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (2022), THE STATE OF WORLD FISHERIES AND AQUACULTURE 2022: TOWARDS BLUE TRANSFORMATION, https://www.fao.org/3/cc0461en/cc0461en.pdf.

INTERNATIONAL MONETARY FUND ET AL. (2022), SUBSIDIES, TRADE, AND INTERNATIONAL COOPERATION.

MAVROIDIS, PETROS (2005), THE GENERAL AGREEMENT ON TARIFFS AND TRADE: A COMMENTARY.

STAIGER, ROBERT W. (2022), A WORLD TRADING SYSTEM FOR THE TWENTY-FIRST CENTURY.

TIPPING, ALICE & TRISTAN IRSCHLINGER (2020), WTO NEGOTIATIONS ON FISHERIES: THE STATE OF PLAY.

WORLD OCEAN REVIEW (2013), THE FUTURE OF FISH – THE FISHERIES OF THE FUTURE.

WORLD TRADE ORGANIZATION (2009), WORLD TRADE REPORT, https://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report09_e.pdf.

WORLD TRADE ORGANIZATION (2022), IMPLEMENTATION OF THE WTO AGREEMENT ON AGRICULTURE: CHALLENGES AND OPPORTUNITIES FOR DEVELOPING AND LEAST-DEVELOPED COUNTRY MEMBERS.

Articles

Ba, Aliou et al. (2022), *Are Subsidies Still Relevant in West African Artisanal Small Pelagic Fishery? Insights from Long Run Bioeconomic Scenarios*, 146(105294) MARINE POLICY 1.

Bayramoglu, Basak et al. (2018), *Trade and Fisheries Subsidies*, 112 JOURNAL OF INTERNATIONAL ECONOMICS 13.

Brou, Daniel & Michele Ruta (2013), *A Commitment Theory of Subsidy Agreements*, 13 BERKELEY ELECTRONIC JOURNAL OF ECONOMIC ANALYSIS AND POLICY 239.

Cevenini, Fabio et al. (2023), *Assessing the Welfare Impacts of Changes in Recreational Fisheries Management: A Modelling Approach for European Sea Bass*, 148(105408) MARINE POLICY 1.

Chakraborty, Debashis et al. (2011), *Doha Round Negotiations on Subsidy and Countervailing Measures: Potential Implications on Trade Flows in Fishery Sector*, 6(1) ASIAN JOURNAL OF WTO & INTERNATIONAL HEALTH LAW AND POLICY 201.

Chang, Seung Wha (2003), *WTO Disciplines on Fisheries Subsidies: A Historic Step Towards Sustainability?*, 6(4) JOURNAL OF INTERNATIONAL ECONOMIC LAW 879.

Chen, Chen-Ju (2022), *Current Developments of Fisheries Subsidies Regulations after the Failure of WTO Doha Round Negotiations with a Focus on the Asia-Pacific Region*, 17(1) ASIAN JOURNAL OF WTO & INTERNATIONAL HEALTH LAW AND POLICY 41.

Cho, Youngjeen (2018), *The Concept of "Developing Countries" in the Context of the WTO Fisheries Subsidies Negotiation*, 9 BEIJING LAW REVIEW 137.

Copeland, Brian R. (1990), *Strategic Interaction Among Nations: Negotiable and Non-Negotiable Trade Barriers*, 23(1) CANADIAN JOURNAL OF ECONOMICS 84.

Daniel, Pauly (1988), *Some Definitions of Overfishing Relevant to Coastal Zone Management in Southeast Asia*, 3(1) TROPICAL COASTAL AREA MANAGEMENT 14.

Da-Rochaa, José-María et al. (2017), *The Social Cost of Fishery Subsidy Reforms*, 83 MARINE POLICY 236.

Hey, Ellen (2000), *Considerations Regarding the Hormones Case, the Precautionary Principle and International Dispute Settlement Procedures*, 13 LEIDEN JOURNAL INTERNATIONAL Law 239.

Horn, Henrik et al. (2010), *Trade Agreements as Endogenously Incomplete Contracts*, 100(1) AMERICAN ECONOMIC REVIEW 394.

Lennan, Mitchell & Stephanie Switzer (2023), *Agreement on Fisheries Subsidies*, 38 INTERNATIONAL JOURNAL OF MARINE AND COASTAL LAW 161.

Melillo, Margherita (2022), *Standards of Scientific Evidence in Preferential Trade Agreements*, 25 JOURNAL OF INTERNATIONAL ECONOMIC LAW 369.

Newmana, David et al. (2015), *Current Methods for Setting Catch Limits for Data-Limited Fish Stocks in the United States*, 164 FISHERIES RESEARCH 86.

Olsen, José María Figueres et al. (2001), *Trade and Environment at the World Trade Organization: The Need for a Constructive Dialogue*, *in* THE ROLE OF THE WORLD TRADE ORGANIZATION IN GLOBAL GOVERNANCE 155 (Gary P. Sampson ed.).

Prévost, Denise (2023), *Disciplining Health Regulations through the World Trade Organization's Agreement on the Application of Sanitary and*

臺大學術期刊資料庫

Phytosanitary Measures: Science and the Rule of Law, 14(4) EUROPEAN JOURNAL OF RISK REGULATION 1.

Quinn, John & Gorazd Ruseski (2001), *Effort Subsidies and Entry Deterrence in Transboundary Fisheries*, 14(3) NATIONAL RESOURCE MODELING 369.

Rickard, Stephanie J. (2022), *Interests, Institutions, and the Environment: An Examination of Fisheries Subsidies*, 66(2) INTERNATIONAL STUDY Quarterly 1.

Ruseski, Gorazd (1998), *International Fish Wars: The Strategic Roles for Fleet Licensing and Effort Subsidies*, 36 JOURNAL OF ENVIRONMENT ECONOMICS AND MANAGEMENT 70.

Sakai, Yutaro (2017), *Subsidies, Fisheries Management, and Stock Depletion*, 93(1) LAND ECONOMICS 165.

Sala, Enric et al. (2018), *The Economics of Fishing the High Seas*, 4 SCIENCE ADVANCES 1.

Skerritt, Daniel J. et al. (2023), *Mapping the Unjust Global Distribution of Harmful Fisheries Subsidies*, 152 (105611) MARINE POLICY 1.

Sumaila, Ussif Rashid et al. (2008), *Fuel Price Increase, Subsidies, Overcapacity, and Resource Sustainability*, 65 ICES JOURNAL OF MARINE SCIENCE 832.

Vecchione, Elisa (2012), *Is It Possible to Provide Evidence of Insufficient Evidence? The Precautionary Principle at the WTO*, 13(1) CHICAGO JOURNAL OF INTERNATIONAL Law 153.

Widodo, Agustinus Anung et al. (2023), *Developing Indicators to Detect the Use of Fish-Aggregating Devices*, 74(6) MARINE AND FRESHWATER RESEARCH 535.

Treaty

United Nations Convention on the Law of the Sea, December 10, 1982, 1833 U.N.T.S. 397.

U.N.-Related Documents

Food and Agriculture Organization of the United Nations Commission on Fisheries, *Illegal, Unreported, and Unregulated (IUU) Fishing, The Agreement on Port State Measures (PSMA) and Trade-Related Issues*, FAO Doc. COFI:FT/XIX/2023/7 (September 11-15, 2023).

United Nations Conference on Trade and Development, *The Oceans Economy: Opportunities and Challenges for Small Island Developing States*, U.N. Doc. UNCTAD/DITC/TED/2014/5 (2014).

臺大學術期刊資料庫

WTO-Related Documents

General Council, *An Undifferentiated WTO: Self-Declared Development Status Risks Institutional Irrelevance, Communication from the United States*, WTO Doc. WT/GC/W/757 (January 16, 2019).

Negotiating Group on Rules, *Draft Consolidated Chair Texts of the AD and SCM Agreements*, WTO Doc. TN/RL/W/213 (November 30, 2007).

Negotiating Group on Rules, *Fisheries Subsidies: Draft Consolidated Chair Text - Communication from the Chair*, WTO Doc. TN/RL/W/276 (May 11, 2021).

World Trade Organization, Additional Provisions on Fisheries Subsidies Draft Text, WTO Doc. WT/MIN(24)/W/10 (2024).

World Trade Organization, Agreement on Fisheries Subsidies Draft Text, WTO Doc. WT/MIN(21)/W/5 (2021).

World Trade Organization, Agreement on Fisheries Subsidies: Ministerial Decision of 17 June 2022, WTO Doc. WT/MIN(22)/33, WT/L/1144 (2022).

World Trade Organization, Agreement on Fisheries Subsidies: Draft Text-Addendum, WTO Doc. WT/MIN(22)/W/20/Add.1 (2022).

World Trade Organization, Fisheries Subsidies: Ministerial Decision of 13 December 2017, WTO Doc. WT/MIN(17)/64, WT/L/1031 (2017).

World Trade Organization, Ministerial Declaration of 18 December 2005, WTO Doc. WT/MIN(05)/DEC (2005).

Internet Sources

Countries Meet to Tackle US$23 Billion Illegal Fishing Trade: FAO, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, https://www.fao.org/iuu-fishing/news-events/detail/en/c/1113516/.

Cox, Anthony & Carl-Christian Schmidt (2002), *Subsidies in the OECD Fisheries Sector: A Review of Recent Analysis and Future Directions*, ORGANIZATION FOR ECONOMIC AND COOPERATIVE DEVELOPMENT, https://www.oecd.org/greengrowth/fisheries/2507604.pdf.

Fact Book 2009: Economic, Environmental and Social Statistics, ORGANIZATION FOR ECONOMIC AND COOPERATIVE DEVELOPMENT (2009), https://www.oecd-ilibrary.org/docserver/factbook-2009-en.pdf?expires=1709367843&id=id&accname=ocid53016431a&checksum=516A382ABDC8505FA0199D59414714A7.

Fisheries Subsidies Negotiation, World Trade Organization (November 8, 2021), https://www.wto.org/english/news_e/news21_e/fish_08nov21_e.htm.

Fisheries Support Estimate, ORGANIZATION FOR ECONOMIC AND COOPERATIVE DEVELOPMENT, https://stats.oecd.org/Index.aspx?DataSetCode=FFS_INDICATOR_DETAILED%20.

臺大法學期刊資料庫

Goal 14 Life Below Water, UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT, https://stats.unctad.org/Dgff2016/planet/goal14/target_14_6.html.

Government Financial Transfers, ORGANIZATION FOR ECONOMIC AND COOPERATIVE DEVELOPMENT, https://stats.oecd.org/viewhtml.aspx?datasetcode=FISH_GFT&lang=en.

Governments of Australia, Canada, Chile, Namibia, New Zealand and the United Kingdom, World Wildlife Fund, International Union for Conservation of Nature & Earth Institute at Columbia University (2006), *Closing the Net: Stopping Illegal Fishing on the High Seas*, HIGH SEAS TASK FORCE, https://www.oecd.org/sd-roundtable/papersandpublications/39375276.pdf.

Harmonized System, WORLD CUSTOMS ORGANIZATION, https://www.wcotradetools.org/en/harmonized-system/search/2022/en?q=%20%40chapter%3A3%20OR%20%40chapter%3A16.

Implementing the WTO Agreement on Fisheries Subsidies, WORLD TRADE ORGANIZATION (2022), https://www.wto.org/english/res_e/booksp_e/Implementfishagreement22_e.pdf.

Life Below Water: Conserve and Sustainably Use the Oceans, Seas, and Marine Resources for Sustainable Development, WORLD BANK, https://datatopics.worldbank.org/sdgatlas/archive/2017/SDG-14-life-below-water.html.

Negotiations on Fisheries Subsidies, World Trade Organization, https://www.wto.org/english/thewto_e/minist_e/mc11_e/briefing_notes_e/bffish_e.htm.

Ritchie, Hannah & Max Roser (October, 2021), *Fish and Overfishing*, OUR WORLD IN DATA, https://ourworldindata.org/fish-and-overfishing.

Scholaert, Frederik (2022), *WTO Agreement on Fisheries Subsidies*, EUROPEAN PARLIAMENTARY RESEARCH SERVICE, https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/698842/EPRS_BRI(2021)698842_EN.pdf.

Schorr, David K. (2004), *Healthy Fisheries, Sustainable Trade: Crafting New Rules on Fishing Subsidies in the World Trade Organization*, WORLD WILDLIFE FUND INCORPORATED, https://www.wto.org/english/forums_e/ngo_e/posp43_wwf_e.pdf.

SDG Indicators Data Portal, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, https://www.fao.org/sustainable-development-goals-data-portal/data/indicators/1461-illegal-unreported-unregulated-fishing/en.

SDG Progress Assessment, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, https://www.fao.org/sustainable-development-goals-data-portal/data/.

臺大學術期刊資料庫

Switzer, Stephanie & Mitchell Lennan, *The WTO's Agreement on Fisheries Subsidies. It's Good but It's Not Quite Right*, ONE OCEAN HUB (June 23, 2022), https://oneoceanhub.org/the-wtos-agreement-on-fisheries-subsidies-its-good-but-its-not-quite-right/.

Wagner, Brandt & William Kemp (2017), *Truly Sustainable*, INTERNATIONAL COLLECTIVE IN SUPPORT OF FISHWORKERS, https://www.icsf.net/wp-content/uploads/2021/06/267_Samudra-Report-No-77-September-2017.pdf.

WORLD TRADE ORGANIZATION (2022), THE WTO AGREEMENT ON FISHERIES SUBSIDIES: WHAT IT DOES AND WHAT COMES NEXT.

Working Paper

Mohanty, S. K. & Pankhuri Gaur, Fisheries Subsidy Issues Before the MC12: Lessons from the May Text for the July Meeting 13 (RIS, Discussion Paper No. 264, June, 2021).

臺大學術期刊資料庫

臺大學術期刊資料庫