



The **E15** Initiative

# STRENGTHENING THE GLOBAL TRADE SYSTEM



## A 'Clean Sheet' Approach to Fisheries Subsidies Disciplines

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April 2015

E15 Task Force on  
Rethinking International Subsidies Disciplines

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**Think Piece**

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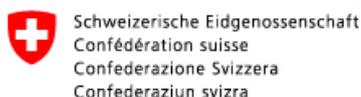
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# ABSTRACT

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This paper is designed to contribute to the E15 Initiative Subsidies Taskforce's conclusions and recommendations on the need for new or revised rules on subsidies for the global trading system. The World Trade Organization's (WTO) Agreement on Subsidies and Countervailing Measures (ASCM) is the basis for the global trading system's disciplines on subsidies, and therefore a logical base to start from in assessing the need for additional disciplines on subsidies to the fishing industry. The ASCM already disciplines subsidies to fisheries production to the extent they distort international trade. However, some fisheries subsidies also potentially distort countries' ability to harvest shared stocks, and have environmental impacts on stocks even where trade is not involved. Other subsidies are more benign, and support the provision of public goods, including the sustainability of fisheries resources themselves.

The objective is to assess the need for a new set of disciplines on fisheries subsidies, and describe options for them based on the structure of the disciplines of the ASCM, which might help to address these impacts. Drawing on current evidence around the economic and environmental impact of subsidies to the fishing industry, the paper takes a "clean sheet" approach to how disciplines on those subsidies might be structured. In proposing options, it also identifies where the ideas are already reflected in the 2007 Chair text in the WTO fisheries subsidies negotiations and how each idea has been discussed in the context of those negotiations.

The first part of the paper describes the policy rationales behind different kinds of subsidies and the impact these subsidies have on the economic incentives of fishers. The second part summarizes analysis by the United Nations Environment Programme (UNEP) of the impact that different kinds of subsidies have on fish stocks under different management and stock conditions. Using these assessments of the impact of subsidies on fishers' incentives to increase production, and (taking into account fisheries management) their likely impact on fisheries resources, the paper suggests a structure for new disciplines.

The options include a prohibition of those subsidies that appear to be most production-enhancing and to have the most impact on the health of targeted fish stocks and potentially on production possibilities. They include options for subsidies that could be made "actionable" on the basis that they may, depending on how they are designed, be production enhancing. Finally, they include subsidies that could be candidates for exceptions from the disciplines as "non-actionable" subsidies, including those that have market-correcting objectives and, under the rubric of "special and differential treatment," subsidies that would otherwise be prohibited but which low-income countries might continue to provide as long as their environmental impact and production-distorting potential could be limited.

Fisheries subsidies have different economic and environmental impacts depending on their formal incidence and the bio-economic state of the fisheries they affect. With the exception of expenditure on fisheries management and the research supporting it, current evidence suggests that most subsidies are harmful in most circumstances, reinforcing the argument that disciplines are required. The fact that only a small fraction of global fisheries have any room for increased exploitation suggests that any exceptions to new disciplines should be carefully designed so as to minimize the potentially negative impact of production-enhancing subsidies on fish stocks, and thus on sustainable development in the long term.

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# LIST OF ABBREVIATIONS

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APEC	Asia Pacific Economic Cooperation
ASCM	Agreement on Subsidies and Countervailing Measures
BE	biomonic equilibrium
DWFNs	distant-water fishing nations
EEZ	exclusive economic zone
EU	European Union
FAO	Food and Agriculture Organization
GATT	General Agreement on Tariffs and Trade
ITQ	individual transferable quota
Max	maximum
MEY	maximum economic yield
MSY	maximum sustainable yield
MPA	marine protected area
OECD	Organisation for Economic Cooperation and Development
R&D	research and development
RFMOs	regional fisheries management organizations
SVE	small and vulnerable economy
TC	total cost of fishing effort
TPP	Trans-Pacific Partnership Agreement
TR	total revenue
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
US	United States
USD	United States dollars
WTO	World Trade Organization

# INTRODUCTION: THE FISHERIES CHALLENGE

Fisheries are a crucial source of nutrition, income, and employment for millions of people around the world. The Food and Agriculture Organization of the United Nations (FAO) estimates that in 2010 fish provided 2.9 billion people with almost 20 percent of their animal protein intake, and that fisheries and aquaculture together support the livelihoods of between 10 and 12 percent of the global population (FAO 2014: 4, 6). Over-exploitation, however, is undermining fisheries stocks' ability to play their crucial role in supporting food security and sustainable development. Part of the problem is ineffective management of the resource, which is compounded by the subsidisation of fishing capacity and effort.

## THE COMMONS PROBLEM

The root of the fisheries challenge is that fish are not owned until they are caught (Stone 1997: 510) and are therefore a common property resource, traditionally managed on the basis of open access (Milazzo 1998: 3). This means fish stocks are particularly vulnerable to the "tragedy of the commons" described by Garrett Hardin in 1968. In the absence of property rights in a fish stock (and thus economic incentives to ensure the value of the resource is not undermined), "each fisher externalises all but a fraction of the asset-depleting cost his haul extracts from the fishery" and fishers

collectively will tend to harvest more than the socially optimal amount of fish (Stone 1997: 539–40).<sup>1</sup> This is, in essence, a form of market failure.

The commons problem exists to varying degrees at all levels of fisheries governance. Fisheries on the high seas are subject to no single national jurisdiction. Some high seas fisheries are governed under regional fisheries management organisations (RFMOs) but these agreements only bind members and other states that choose to cooperate, and are of variable effectiveness in enforcing catch limits (Roheim and Sutinen 2006). The 1982 United Nations Convention on the Law of the Sea (UNCLOS) placed certain portions of the high seas under the jurisdiction of coastal states as exclusive economic zones (EEZs) (UN 2013). However, even within these EEZs most fisheries are still, to varying degrees, common resources, as very few states have established systems of property rights in their national fisheries—in 2008, the 10,000-odd fisheries in the world contained only around 120 individual transferable quotas (ITQs) (Economist 2008). Compounding the challenge, up to a third of global marine fish catch may come from fish stocks that are shared, either because their geographical range covers two or more EEZs or includes an EEZ and the high seas, or because the fish migrate between the high seas and one or more EEZs, or because the fish live only on the high seas (Munro et al. 2004).

1 The FAO Fisheries Glossary includes two definitions of a "fishery"—"an activity leading to harvesting of fish" either through the capture of wild fish or aquaculture, and more specifically, summarising Fletcher et al. (2002), "A unit determined by an authority or other entity that is engaged in raising and/or harvesting fish. Typically, the unit is defined in terms of some or all of the following: people involved, species or type of fish, area of water or seabed, method of fishing, class of boats and purpose of the activities."

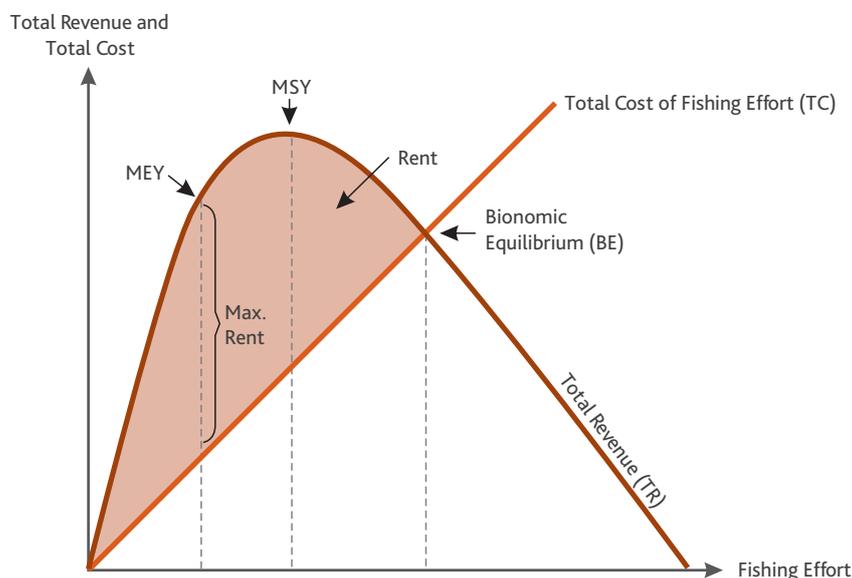


FIGURE 1:

Gordon-Schaefer Bioeconomic Model

Source: Sumaila et al. (2013: 23), adapted from Sumaila and Pauly (2006) and based on Gordon (1954).

The Gordon-Schaefer bio-economic model (Gordon 1954), adapted by Sumaila et al. (2013), illustrates the problem from another angle (Figure 1). If access to a resource like a fish stock is not restricted, revenues will increase with fishing effort up to a point (the stock's maximum sustainable yield, or MSY) but beyond that, as extraction rates deplete the resource, catches will begin to decrease with additional effort. However, fishing "effort will continue to increase even though revenues per unit of effort are declining, and ... ultimately revenues will decline until they equal costs" (Sumaila et al. 2013: 23). The point where total costs equal total revenues (BE in Figure 1) is beyond the stock's MSY.

## FISHERIES SUBSIDIES

Subsidies that incentivize further production aggravate the commons problem. Cost-reducing subsidies to fishing fleets tend to move the total cost of fishing effort curve downwards along the total revenue curve, resulting in more fishing effort (see Sumaila et al. 2013: 24). The basic model above reflects an "open access" fishery, where catches are limited only by the biology of the stock. In theory, the impact of incentives for increased production could be restrained by fisheries management systems that limit the amount of effort and harvest. In reality, few management systems do this effectively.

Many different definitions, classifications, and estimates of the scale of fisheries subsidies have been developed over the years (for example, Milazzo 1998; APEC 2000; Westlund 2004; UNEP 2004; OECD 2006, among others). The most recent and globally comprehensive estimate of the scale of global subsidies is probably from Sumaila et al. 2013, who

estimate that in 2009 global fisheries subsidies amounted to around USD 35 billion. The largest subsidies by value were provided to fuel used by fishing vessels, which made up 22 percent of the total, to the management of fisheries, to fisheries infrastructure (ports and harbours), and to the capital costs of modernizing fishing fleets (Figure 2).

Ineffective fisheries management and the incentives created by cost-reducing subsidies have led to excess capacity (physical harvesting potential) and effort (actual fishing activity) in global fisheries. The World Bank and FAO estimate that global catch could be harvested with half the amount of the effort currently deployed by the global fleet (World Bank-FAO 2009: xviii). The resource itself is also significantly depleted. According to the FAO, in 2011, 28.8 percent of fish stocks were being fished beyond biologically sustainable levels. Of the stocks assessed, 61.3 percent were fished at their maximum sustainable level, and only 9.9 percent were being fished below their sustainable biological maximum and thus had some room left for increases in harvest (FAO 2014: 7).

## ASSESSING THE NEED FOR NEW DISCIPLINES ON FISHERIES SUBSIDIES

This think piece is designed to contribute to the E15 Initiative Subsidies Taskforce's conclusions and recommendations regarding the need for new or revised rules on subsidies for the global trading system. The World Trade Organization's (WTO) Agreement on Subsidies and Countervailing Measures (ASCM) is the basis for the global trading system's disciplines on subsidies, and therefore a logical base to start from in

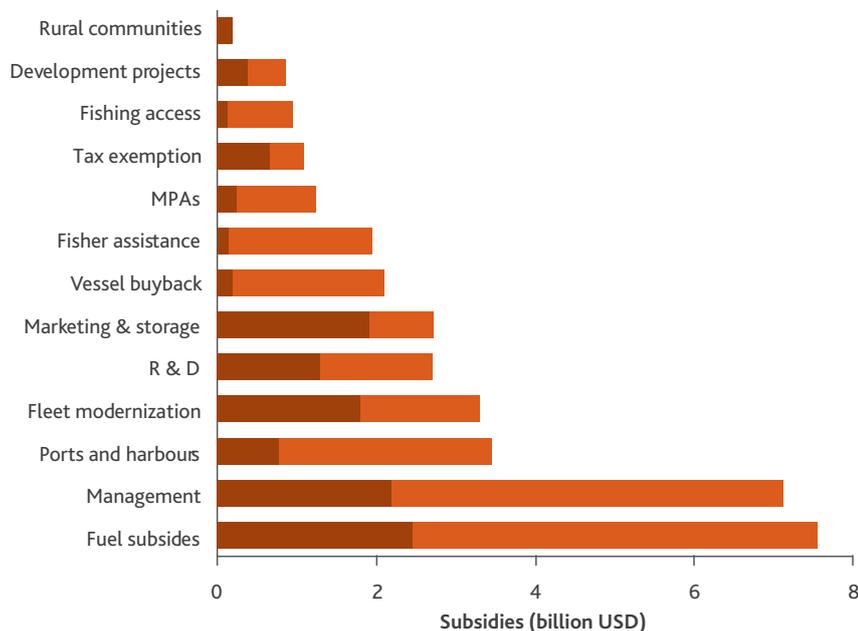


FIGURE 2:  
Subsidy Estimates by Sectors

LEGEND:  
 Developing countries  
 Developed countries

Source: Sumaila et al. (2013: 29). Adapted from FAO (1992), Milazzo (1998), Sumaila and Pauly (2006), and Sumaila et al. (2010).

assessing the need for additional disciplines on subsidies to the fishing industry. The ASCM already disciplines subsidies to fisheries production to the extent they distort international trade. However, some fisheries subsidies also potentially distort countries' ability to harvest shared stocks, and have environmental impacts on stocks even where trade is not involved. Other forms of subsidies are more benign, and in fact support the provision of public goods, including the sustainability of fisheries resources themselves.<sup>2</sup>

The objective of this paper is to assess the need for a new set of disciplines on fisheries subsidies, and describe options for these disciplines based on the structure of the ASCM, which might help to address these impacts. The first part of the paper describes the policy rationales behind different kinds of subsidies and arguments around the impact these subsidies have on the economic incentives of fishers. The second part summarizes analysis by the United Nations Environment Programme (UNEP) of the impact that different kinds of subsidies have on fish stocks under different management and stock conditions. Using these assessments of the impact of subsidies on fishers' incentives to increase production, and (taking into account fisheries management) their likely impact on fisheries resources, the paper suggests a structure for new disciplines.

The options include a prohibition of those subsidies that appear to be most production-enhancing and to have the most impact on the health of targeted fish stocks and potentially on production possibilities. They include options for subsidies that could be made "actionable" on the basis that they may, depending on how they are designed, be production-enhancing. Finally, they include subsidies that could be candidates for exceptions from the disciplines as "non-actionable" subsidies, including those that have market-correcting objectives and, under the rubric of "special and differential treatment," subsidies that would otherwise be prohibited but which low-income countries might continue to provide as long as their environmental impact and production-distorting potential could be limited.

## ASSESSING THE ECONOMIC IMPACT OF SUBSIDIES

Of the many classifications of subsidies in the literature, the one most suited to the development of ASCM-based disciplines is probably that developed by UNEP (2011), a composite list that draws together a number of previous classifications.<sup>3</sup> The classification focuses on the formal incidence of the financial support, not the mechanism by

which it is delivered (for example, a tax exemption versus a direct transfer versus services provided). This allows us to build on the ASCM definition of a subsidy. The paper draws on analysis based on other classifications where relevant.

UNEP's eight categories of fisheries subsidies are the following.

- Subsidies to capital costs
- Subsidies to variable costs
- Subsidies for access to foreign countries' waters
- Fisheries infrastructure
- Income support and unemployment insurance
- Price support subsidies
- Vessel decommissioning and license retirement subsidies
- Management services and research

The classification excludes subsidies that arise from government inaction, for example the non-recovery of resource rents of the fishery, which some have argued could constitute an economic subsidy to the industry (Stone 1997: 518; Milazzo 1998: 62). The question of how to address these is explored in the final section.

## PRESSURE OF SUBSIDIES AND LIMITATIONS OF MANAGEMENT

The impact of fisheries subsidies on production, and therefore on trade and the resource itself, depends broadly on three variables. First, whether the subsidies incentivise fishers to increase fishing capacity and fishing effort; second, whether the management system in place (if any) effectively controls catches and effort and incentivises sustainable fishing; and third, whether there is already too much capacity in the fishery (see UNEP 2011: 26–29).

Generally, and at least in the short term, "the increased profitability resulting from subsidies will result in more effort and larger catches of fish, unless there are controls in place limiting effort or fish catches, or property rights regimes with incentives to limit effort" (OECD 2006: 163). A management system based on property rights in the resource (for example, those established through ITQs) or through rigorous community-based management, means fishers have an incentive to have catches limited to sustainable levels to maintain the value of the resource (UNEP 2011: 27–29).

Many management systems not based on property rights involve either setting and enforcing total allowable catches

2 | Public goods are non-rival and non-excludable. The original concept of public goods is usually attributed to Paul Samuelson (1954).

3 | The classification set out in UNEP (2011: 21) is adapted from UNEP (2004). It is very similar to that used by the OECD (2006) but excludes, for example, subsidies to labour retirement and to fisheries marketing and processing.

from a fishery or limiting the amount of effort that fishers expend ("catch control" or "effort control" systems). However, both these management structures can be undermined by the pressure to increase production created by some subsidies. Systems based on catch controls are vulnerable to pressure from over-capitalised fishing fleets for higher catch limits, while effort-based systems struggle to exert effective control over every possible component of fishing effort, particularly when subsidies encourage investment in new boats or gear (OECD 2006: 161–62). In the absence of any management, the resource is essentially "open access" and behaviour resembles the Gordon-Schaefer model.

The rest of this section is divided into two parts. The first describes the policy rationale behind different kinds of subsidies, and summarises arguments around their impact on fishers' incentives. The second part describes, briefly, the impact of subsidies on trade. The next section looks at the environmental effects of these pressures, drawing on UNEP's 2011 assessment of the impact of different kinds of subsidies on fish stocks under different management and bio-economic conditions.

## IMPACT OF DIFFERENT SUBSIDIES ON INCENTIVES TO INCREASE FISHING CAPACITY AND EFFORT

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Many subsidies have as an objective enhancing fishing effort or improving the profitability of the fishing industry by reducing costs and increasing the industry's revenues. Surveys of fisheries subsidies in members of Asia Pacific Economic Cooperation (APEC) and the Organisation for Economic Cooperation and Development (OECD) record a variety of different policy rationales for these kinds of subsidies, including supporting employment and incomes in the fishing sector; improving domestic food supply; generating export revenue; supporting disadvantaged regions; and providing support for fishers for cultural reasons or to support aboriginal communities (APEC 2000: 22; OECD 2006: 11). Because the introduction of property rights in a fishery changes fishers' incentives so radically, this part focuses on the impact of subsidies on incentives in fisheries without property rights, which is the vast majority.

### Subsidies to capital costs

Capital-cost subsidies are usually provided to expand or modernise a fishing fleet, or both, and tend to motivate fishers to increase investment in their own fishing capacity, irrespective of the current level of capacity of the fleet (UNEP 2011: 48). Even if a fishery is under-capitalised when the subsidy is applied, the impact of an injection of new capital can catalyze investment in additional technology and fishing capacity across the fleet, with the result that "subsidies for vessel construction or vessel modification almost inevitably

lead to capacity overshoot in the relevant fisheries" (UNEP 2011: 48).

In OECD countries, construction subsidies are gradually being replaced with subsidies for vessel modernisation and more environmentally-friendly vessel technology (OECD 2006: 17–18). Modernisation subsidies are also often provided along with decommissioning schemes, but the combination of retiring older vessels and upgrading newer ones can have perverse effects, and—"schemes for subsidized replacement of older vessels with more modern vessels are almost certain to fail to prevent overall increases in capacity" (UNEP 2011: 48). If a fishery is already depleted and strong catch controls are in place, subsidies to capital costs may result in a smaller increase in overall production than in a fishery without catch controls, but over-capitalized fisheries may also face greater pressure from fishers to raise catch limits, and cheating on established quotas (UNEP 2011: 49).

### Subsidies to variable costs

Subsidies to variable fishing costs (for example, fuel, gear, bait, or taxes) generally lower the cost of each fishing trip, and so tend to increase fishing effort at a given level of capacity (UNEP 2011: 50). Fuel subsidies are a particular problem. With a number of fish stocks already depleted, the remaining fish have become harder and harder to catch, which means the cost of fuel has become a larger proportion of operating costs (UNEP 2011: 50). Perhaps as a result of this (and, until recently, of high global oil prices), fuel subsidies are by far the largest fishery subsidy by quantity (Figure 1). In addition to the direct impact of fuel subsidies on the cost of operating motorized fishing vessels, the subsidies can have an indirect impact on fishing capacity by encouraging the use of larger engines and refrigeration on fishing vessels (UNEP 2011: 50–51).

### Subsidies for access to foreign countries' waters

Some governments of distant-water fishing nations (DWFNs) purchase, on behalf of their fishing fleets, access to fish stocks in other countries' EEZs. When the cost of this access is not fully recovered from industry, it essentially becomes a subsidy to what would have been another variable cost of the distant water fleet's activities, providing the fleet with an incentive to increase its effort in the distant fishing ground (UNEP 2011: 36).

### Fisheries infrastructure

Subsidies to fisheries infrastructure (for example, fishing ports, docks) is another of the largest fisheries subsidies by amount (Figure 1), and they made up one-third of all OECD subsidies in 2003 (OECD 2005: 5). Subsidizing the cost of fisheries infrastructure does not appear to have a direct impact on the incentives of fishers already in the industry, although by making fishing more profitable overall, it may discourage exit from fully exploited or over-capitalized fisheries (UNEP 2011: 33–4). The construction of new

fishing ports gives fishers a base closer to fishing grounds and reduces the cost of travelling to and from the resource (Milazzo 1998: 55), which may make it easier to expand fishing activity.

Identifying the public and private benefits of subsidies to fisheries infrastructure is not easy. Even if the classification excludes general infrastructure, as in the ASCM definition of a subsidy, the dividing line between the public-good elements of a fishing port and the private benefit derived mainly by the fishing industry is not clear-cut. Some elements of fisheries infrastructure (for example, lighthouses and navigation equipment) provide relatively pure public goods, while others, like landing facilities, are more excludable and therefore more like “club” goods, the benefits of which accrue mainly to the fishing industry (OECD 2006: 80). Overall, most of the cost of building and maintaining fisheries infrastructure around the world is borne by governments rather than the fishing industry (Milazzo 1998: 55).

### Price support

Price support measures include interventions to support the revenues of producers (with vessel owners as the main beneficiaries) to ensure they receive a target price above the world price, or measures that support prices if they fall below the world price (UNEP 2011: 56). Price support measures generally create incentives for fishers to increase production (UNEP 2011: 57). Catch controls, where they exist, are likely to provide only a limited constraint on these production increases, as fishers in an over-capitalised fishery “are motivated and able to use their political influence to pressure fisheries managers to compromise the scientific integrity of catch quota decisions and to flout the quotas” (UNEP 2011: 57).

### Income support

Income support subsidies include unemployment insurance to employees of fishing companies and, less commonly, laying-up subsidies, which compensate vessel owners for temporary restrictions on fishing activity (UNEP 2011: 52). The two kinds of support have different economic implications.

Unemployment insurance, if provided at the same level to employees in the fishing industry as to wage-earners in other industries, should not result in more employment in fishing, although if it is provided to self-employed fishers, it may result in more labour moving into the fishing industry (UNEP 2011: 53). If there is already more labour in the fishing industry than the resource can support, even unemployment insurance provided at the same level as in other sectors could simply extend an unsustainable status quo.

Laying-up subsidies are usually provided to compensate vessel owners for temporary closures of fishing grounds or bans on fishing certain species. Depending on the effectiveness of catch and effort controls, laying-up subsidies that are delinked from production levels may not lead

directly to increases in capacity or effort (UNEP 2011: 55). However, as subsidies to idle capacity, laying-up subsidies “discourage exit by vessel owners who might otherwise consider retiring from an industry that has been seriously affected by overfishing” (UNEP 2011: 53).

### Decommissioning and license retirement

Vessel decommissioning and licence retirement subsidies have three broad objectives—insulating fishers from the cost of reducing fleet capacity; improving the remaining fleet’s profitability; and enabling fish stocks to rebuild (OECD 2006: 173). Decommissioning schemes do not, however, have a good track record of achieving the second and third objectives listed above.

At least three factors cause capacity and effort to be higher in fisheries with decommissioning subsidies—the injection of capital into the industry that can be used to re-invest in capacity; incentives for greater risk-taking in decisions to invest in the fishery; and greater incentives for vessel owners to stay in the fishery longer than they otherwise might (UNEP 2011: 44). As a result, “In the absence of property rights (or other means for eliminating economic incentives to overfish) a vessel or license retirement subsidy is bound to fail to reduce both capacity and effort significantly and is likely to make the overcapacity situation worse unless very stringent and well-enforced regulations are in place to prevent increased capacity and effort” (UNEP 2011: 45)

### Management services and research

Fisheries management services are funded by governments to develop a better understanding of fish stocks to support better harvesting and management decisions, ensure the long-term sustainability of fish stock, and for environmental protection, among other reasons (APEC 2000: 21).

There is ongoing debate around whether these government services really constitute subsidies to the fishing industry. Management services result in both private and public goods—to the extent that the services help to maintain or increase the supply of fish over time, they provide a level of private benefit to the fishing industry, but also to consumers of fish (UNEP 2011: 34).<sup>4</sup> It is at least arguable that the failure to require fish harvesters to contribute to the social costs of sustainable fisheries is an implicit subsidy to the fishing industry (UNEP 2011: 35). This argument might be particularly strong if the industry also owns property rights in the resource, and in fact in the United States (US) and Canada, fishing industries that own quotas are often required to pay some of the cost of managing the quota system (OECD 2006: 156). While very few countries currently recover the costs of fisheries management services, it has

4 | Johnston (1992) discusses pecuniary externalities that may occur as fishery production expands, supply rises, and prices fall, resulting in lower-than-expected profits for the industry. The opposite effect could also exist—as a fish stock is depleted and supply shrinks, prices could rise, imposing a pecuniary externality on consumers of fish.

been argued that if more countries did so, the absence of cost recovery might begin to be considered a form of subsidization (OECD 2006: 157).

A similar problem of separating the public and private good elements of financial support arises in the research element of this category. Some research, for example, for marketing of products and exploration of new fisheries, clearly benefits the fishing industry, while other forms of research, for example, into selective fishing techniques, improve harvest productivity but also benefit the marine environment, which is in the public interest (UNEP 2011: 35). The OECD has argued that research with the objective of improving harvest productivity (for example, more selective fishing gear) is actually a club good as its benefits are more excludable, and thus its beneficiaries more identifiable, than more general research (for example, to improve stock assessments) whose benefits are not as excludable and perhaps closer to public goods (OECD 2006: 78).

The problem, Squires et al. (2014) argue, is that where subsidies, such as those for research and technology, involve both public and private benefits, “there can be both a ‘bad’ subsidy for the private part and a ‘good’ Pigouvian subsidy for the public part of an impure public good and disentangling the two can be difficult” (2014: 222). Even if the private benefit of these public expenditures could be identified and cost-recovered from industry, from an environmental point of view, most management services and research are generally assessed as not having a negative impact on production and the exploitation of fish stocks.

## TRADE EFFECTS

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The OECD has explored the possible trade effects of fisheries subsidies (for example, OECD 2005). The effect of subsidies to fisheries on trade depends on their effect on total catch, which in turn depends on the state of the stock and the management regimes in place in the exporting and importing countries. If management systems are so well enforced that they effectively limit catch levels, providing financial support to fleets is not likely to change the level of production and supply to domestic markets or trade. However, in cases where management is not perfectly enforced, financial support to a fishing fleet can enable increases in the supply of fish, with a resulting impact on domestic and international prices and trade flows (OECD 2005: 5).

The potential impact on supply and trade may vary in the short and long term, however. While subsidies that increase production provide a short-term competitive advantage to the fleets receiving the subsidy, unless the fishery is effectively managed, this advantage will gradually be eroded as stock levels and catches gradually fall in the domestic fishery (OECD 2005: 5, 2006: 10–11). However, the difficulty of policing the oceans means “excess capacity may also be exported and may have spill-over effects on other countries

... and on the high seas” (OECD 2003: 35). This suggests that the competitive advantages of production-enhancing subsidies could last longer if vessels are able to shift fishing operations as target stocks are progressively depleted.

The issue of fishing vessels progressively moving from one fishery to another points to a particular kind of potential distortion of fisheries subsidies,—the possibility that where vessels from different countries compete directly for access to a stock, for example, on the high seas, those vessels whose costs are subsidised (or more subsidised) enjoy a competitive advantage that enables them to fish greater quantities of the shared resource than non-subsidised players. The competitive advantage of the subsidised producers could create a distortion, at the level of productive ability, between fleets, and potentially distort markets and trade (Chen 2010: 42). This kind of production distortion may be strongest where control of access to the stock is likely to be weakest,—on the high seas (Sumaila et al. 2013: 19).

Despite the high level of subsidization of fishing activity and that in 2012 around 37 percent of fishery production was exported (FAO 2014: 7), there appear to have been few cases of countervailing duties imposed by WTO Members in retaliation for the subsidization of fish products (Chen 2010: 41). According to the WTO website, there appears to have been only one WTO dispute related to countervailing duties applied to fish, *United States — Countervailing Duty Investigation of Imports of Salmon from Chile (DS97)* brought in 1997.<sup>5</sup> According to WTO Secretariat data, as of February 2015 no countervailing duties were in place although several investigations had been initiated over the last few years.<sup>6</sup> Exploring why countervailing measures are imposed so rarely on fish products requires more space than is available here, but it may be the result of a number of possible factors, including the lack of transparency around the amounts of money spent on fisheries subsidies, the heterogeneity of global fish trade, or the difficulty of tracing the impact of a subsidy through the supply chain to the price in the country of import. Another possible reason may be because the countries that Sumaila et al. (2013) estimate provide the largest subsidies (including the US, European Union [EU], and Japan) are also among the largest markets for fish, and tend to import fish products from other countries rather than from each other.

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5 | World Trade Organization website: [www.wto.org](http://www.wto.org).

6 | WTO Secretariat, personal communication, February 2015.

# ENVIRONMENTAL IMPACT OF DIFFERENT SUBSIDIES

The impact of different fisheries subsidies on the resource itself depends not only on how well the management system controls the incentives created by many subsidies to increase capacity and effort, but also on the state of the underlying stock. An under-exploited stock might withstand increased harvesting for a while, whereas an over-exploited stock will gradually (or quickly depending on its biology) be depleted and not yield much more even if effort is increased.

UNEP's 2011 assessment estimates the impact of each category of subsidy on fish stocks under three broad levels of management effectiveness (open access, catch controls, and effective management) and also according to the bio-economic status of the stock (whether there is over-capacity, full capacity, and less than full capacity in the fishery). The "translation" between the effects of each category of subsidy on vessel owners' incentives and the effect on stocks is achieved by assuming that in a fishery already suffering from overcapacity, "any increase in fishing effort induced by the addition of a fishing subsidy will have some negative impact

on fish stocks. It is believed that this assumption reflects the reality for most fisheries most of the time" (UNEP 2011: 32).

UNEP's definitions are distinctly conservative. The "effective management" category requires relatively effective controls on level of catch and incentives for compliance, such as those provided by property rights. As such, the effective management category represents "only a tiny fraction of real world circumstances" (UNEP 2011: 30). Most management systems fall into the category of "catch control" (with only imperfect control of catch and effort, and a lack of incentives for sustainable fishing) or "open access" (where there is a lack of any control over catch and effort, and no incentives for sustainable fishing). Given that in 2011 more than 90 percent of global stocks were being fished at or beyond their maximum sustainable level (FAO 2014: 7), most fisheries probably fall into the "full capacity" or "over-capacity" categories. The impact of eight categories of subsidies on stocks at different levels of exploitation and management are summarized in Table 1.

Broadly, the assessment suggests that where the commons problem of fisheries is eliminated through the use of property rights or where management is so effective that it otherwise eliminates incentives to over-fish, subsidies should not have an impact on fishing effort and catch unless total catch limits are also raised. However, very few fisheries meet this standard. Most subsidies, under realistic management

TABLE 1:

Impact of Different Fisheries Subsidies on Fish Stocks

Notes: NH = Not Harmful / PH = Possibly or Probably Harmful / H = Harmful / - = Not applicable / UI = unemployment insurance / LU = laying up subsidies.

Source: Adapted from UNEP (2011), Tables, 2.2–2.4, 2.6–2.10, and 2.11. UNEP's summary Table 2.11 does not include the "Effective Management" category on account of its being so rare. It has been included here by adding on the separate "Effective Management" assessments of each category of subsidy. Shading of the Price supports / Open Access / Less than full capacity box is based on UNEP Table 2.10.

	Open access			Catch controls			Effective management		
	Over-capacity	Full capacity	Less than full	Over-capacity	Full capacity	Less than full	Over-capacity	Full capacity	Less than full
Capital costs	H	H	H	H	H	H	NH	NH	NH
Variable costs	H	H	PH	H	PH	PH	NH	NH	NH
Access to foreign waters	H	H	NH	H	H	NH	NH	NH	NH
Fisheries infrastructure	H	H	NH	H	H	NH	NH	NH	NH
Price support	H	H	H	H	H	PH	NH	NH	NH
Income support	UI: H LU: H	UI: H LU: H	UI: H LU: -	UI: PH LU: H	UI: PH LU: H	UI: PH LU: H	UI: NH LU: NH	UI: NH LU: NH	UI: NH LU: NH
Decommissioning	H	PH	-	PH	PH	-	NH	NH	-
Management services	NH	NH	NH	NH	NH	NH	NH	NH	NH

circumstances, are potentially harmful to fisheries stocks (UNEP 2011: 61).

It also appears that where catch is well below the maximum sustainable level and there is room to increase capacity and effort, subsidies may not be immediately harmful to the sustainability of the resource. However, in 2011, less than 10 percent of global fish stocks had some room remaining for increased production (FAO 2014: 7) and the risk of overshooting sustainable levels of exploitation remains, particularly if the subsidies result in capacity enhancements.

It is worth noting that the impact of subsidies on fish stocks can occur whether the fishing subsidized is large scale or small scale. Small-scale fishing fulfils a crucial socio-economic function in many countries and contributes much more than industrial fisheries to global employment (Jacquet and Pauly 2008). In Senegal, fuel subsidies to the small-scale fisheries sector "had a significant impact in terms of extending the length of sea trips of icebox pirogues and has led to an intensification of the demersal fishing effort and increased pressure on many fish stocks" (UNEP 2011: 78).

## EXISTING DISCIPLINES AND NEED FOR NEW ONES

The disciplines set out in the ASCM address the trade-distorting impact of fisheries subsidies to the fishing industry. Export-contingent and import substitution subsidies to fishing would be prohibited under Article 3 of the ASCM, and subsidies provided by one WTO Member to its fishing industry that had an adverse impact on competing like products produced by another WTO Member would be actionable under Part II of the ASCM (WTO 1999). The rules do not, however, clearly address three problems.

First, the current ASCM rules do not address the potential impact of subsidies on the health of the underlying fisheries resource, which can occur whether the product is traded or not. A second, related problem is that the rules do not clearly address the production-level distortions that could be created by subsidisation of one fleet that shares exploitation of a stock with other fleets (Chen 2010: 42). As Allgeier and Sakai explain, the "traditional view of the trade-distorting effects of subsidies misses the point that such subsidies, in addition to having ... direct competition-distorting effects ... also have a significant 'adverse effect' on the sustainability of the underlying resource being produced (fish), which threatens the viability of all other members' fishing industries" (2011: 257). Third, with the expiry of Article 8 of the ASCM, subsidies previously exempt from the disciplines,

such as those to support compliance with environmental requirements, are now, presumably, actionable.

New disciplines on fisheries subsidies could therefore aim to do (at least) three things.

- 1) Address the negative environmental impact subsidies can have on fish stocks;
- 2) address production distortions that subsidies can create with respect to shared resources; and
- 3) establish clear but limited space for subsidies that address market failures associated with fisheries, and support provision of public goods.

Establishing disciplines on subsidies that may have environmental effects but no impact on international trade sits outside the WTO's traditional remit. If there is a need to address the environmental effects of fisheries subsidies, should this be done in the WTO? In one sense, the question is moot, given that WTO Members agreed in 2001 and again in 2005 to strengthen disciplines on fisheries subsidies as part of the Doha Development Agenda.<sup>7</sup> However, the fact that WTO Members have since then also turned to other forums to negotiate fisheries subsidy disciplines suggests that the question is still worth exploring.

The texts of the WTO agreements suggest that WTO Members do want to use the agreements to balance economic growth and environmental protection objectives. Article XX.g of the General Agreement on Tariffs and Trade (GATT) establishes a qualified exception for measures taken "relating to the conservation of exhaustible natural resources" that would otherwise be inconsistent with the rest of the agreement (WTO 1999: 455). More recently, the preamble of the 1994 Marrakesh Agreement Establishing the World Trade Organisation records the Parties' desire to expand production and trade of goods and services "while allowing for the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both to protect and preserve the environment and to enhance the means for doing so" (WTO 1999: 4). The WTO is also a practical forum to negotiate new fisheries subsidy disciplines because it already manages, in the ASCM, a well-tested framework of multilateral rules on subsidies. If there is a desire to negotiate new multilateral disciplines on fisheries subsidies, it makes sense to build on the existing framework of rules.

However, 14 years of fisheries subsidies negotiations under the Doha Development Agenda have not yet produced an outcome. In the interim, some WTO Members are negotiating their own rules on fisheries subsidies under the

7 | The most recent negotiating mandate was agreed at the WTO Hong Kong Ministerial Meeting in 2005. See WT/MIN(05)/DEC, 22 Dec. 2005, Annex D para 9.

Trans-Pacific Partnership Agreement, or TPP (see USTR 2011). The two approaches (multilateral and plurilateral) present different tensions in terms of their possible substantive outcomes.

A multilateral agreement at the WTO would address a greater proportion of the problem. Modern fishing is a globalised industry involving dozens of countries competing for access to the planet's marine resources. Agreements to limit subsidies among groups of countries may help to address part of the problem, but the most efficient way of dealing with an entrenched policy problem that affects virtually all WTO Members is probably to negotiate new multilateral rules. A WTO agreement would also have the benefit of an effective dispute settlement system, which could make it more likely that governments would implement and comply with the agreed subsidy disciplines. A WTO agreement could therefore become the benchmark of enforceable rules on fisheries subsidies and as such should, ideally, be as ambitious as possible to establish a strong baseline for further agreements. However, the need to accommodate the positions of so many parties means those negotiating a WTO agreement may find it harder to reach an ambitious outcome than a deal negotiated among a smaller group.

An agreement among a smaller group of countries could reach a more ambitious outcome, and reach agreement more quickly, than a multilateral agreement. In a plurilateral agreement on subsidies, those outside the group would benefit from positive externalities generated by the group members' subsidy reform (in terms of healthier fish stocks and potentially fishing industry competitiveness). Reaching agreement among the group could therefore require weighing the implications of subsidy reform both at the national level and the regional or global levels.

Sumaila et al. argue in relation to solving the production-distortion problem that "the future of international fisheries subsidies regulation may be a coordinated effort between the WTO and international fisheries agencies such as the FAO, where the WTO disciplines the trade-distorting effects and the FAO and RFMOs regulate the production-distorting effects" (2013: 19). RFMOs' effectiveness in monitoring and enforcing fishing rules is, however, variable, (as Sumaila et al. recognize) and management efforts can be undermined by the pressure for higher catch limits created by subsidies to capacity and effort. Alternatively, it might make sense to promote a more level playing field in global fisheries by including in new subsidies rules specific disciplines on subsidies provided to vessels that target shared fisheries, especially those on the high seas.

## OPTIONS FOR NEW DISCIPLINES

Given the ASCM's central role in defining and disciplining subsidies, it makes sense to build new disciplines on fisheries subsidies on the ASCM definitions, scope, and structure. The options presented in this part assume the ASCM definitions of a subsidy will apply and therefore focus on the incidence of each kind of intervention, not its mechanism of delivery. Despite the links between the two sectors, the options focus, for simplicity, on marine capture fisheries and not on aquaculture. This is also the approach taken in the 2007 Chair text presented in the WTO fisheries subsidies negotiations; the only Chair text for new disciplines released so far.<sup>8</sup>

Building on the ASCM structure, the disciplines could consist of

- a prohibition of those subsidies most likely to enhance production and therefore cause harm to fish stocks and production distortions;
- a list of actionable subsidies which may or may not enhance production, depending on their design;
- exceptions for non-actionable subsidies that would be allowed, or allowed conditional on any production-enhancing impact being mitigated; and
- special and differential treatment provisions allowing developing countries to provide otherwise prohibited subsidies within sustainable limits.

Whether or not each kind of subsidy enhances production is inferred from the evidence above about its impacts on capacity and effort, and the assessment of its impact on fish stocks.

Transparency to support compliance with new disciplines would be crucial. Although fisheries subsidies should be notified along with other industrial subsidies under the ASCM, WTO Members' record of subsidy notifications is patchy. New disciplines could also be used to provide positive or negative incentives to Members to improve transparency around their fisheries subsidies.<sup>9</sup>

8 | See WTO document TN/RL/W/213, 30 Nov 2007.

10 | Article VIII.2 in the 2007 Chair text would create a presumption that non-notified subsidies are prohibited.

A definitional question that merits further discussion is how to treat the implicit subsidies that arise from government inaction, particularly the failure to recover resource rents. Yeo (2010) has pointed to the WTO Appellate Body interpretation in the *US-Softwood Lumber IV* dispute that “goods” in Article 1.1 of the ASCM includes trees and argued that the interpretation could be applied to a wide variety of “natural resource rights that are typically provided by governments” including, potentially fishing rights. If, Yeo argues, under Article 14.d of the ASCM, “we require governments to collect ‘adequate remuneration’ for trees that are harvested from public lands, why don’t we require governments to collect ‘adequate remuneration’ for fish that are harvested from public waters?”

Others have argued that non-collection of resource rents could be considered “revenue that is otherwise due” and therefore within the definition of a subsidy under Article 1 of the ASCM, but have pointed to the more practical problem that it would be very difficult to establish how much the resource is worth and how much fair rent (and therefore the subsidized amount) would be (Stone 1997: 528–29; Milazzo 1998: 61–62). Perhaps, as discussed above on the lack of cost-recovery for fisheries management, if and when governments’ practices change and fisheries rents begin to be charged to industry, state practice might lead to their non-collection being considered a form of subsidy.

The second question is whether it is possible to estimate what proportion of a particular type of subsidy (for example, into research on selective fishing gear) is of public benefit and how much is of private benefit. This may not be possible in most cases (if any) but, to stimulate debate, the options include suggestions as to where particular kinds of subsidies might be placed along a continuum, with those to pure public goods at one end and to pure private goods at another, for the purposes of disciplining those that provide more private benefit and allowing those that provide more public benefit.

Many of the options for disciplines suggested are also reflected in the draft disciplines on fisheries subsidies proposed in the 2007 Chair text of the WTO fisheries subsidy negotiations. A subsequent report by the Chair of the negotiations in 2011 (cited as “W/254”) summarized the state of discussion on the key proposals in the 2007 Chair text and in submissions by WTO Members during the negotiations.<sup>10</sup> Discussion has moved very little, if at all, since the 2011 report, so it provides a relatively up-to-date sense of how WTO Members view each issue. The rest of this section describes the options for disciplines derived from the analysis above, and identifies briefly, on the basis of the 2007 Chair text and 2011 Chair report, how the ideas have been reflected in WTO negotiations.

## PROHIBITION

Those subsidies that have the most direct production-enhancing impact could be included in a prohibition. This list could be developed by kind of subsidy (for example, all subsidies to variable costs) or narrower list targeting the most important subsidies (for example, to fuel).

UNEP’s assessment summarized above concludes that subsidies to capital costs and subsidies to variable costs appear to have the most direct impact on fishing capacity and effort, along with three other kinds of subsidies—to infrastructure, access to foreign waters, and price support subsidies, these subsidies—“can generally be considered harmful to fisheries resources under most real-world conditions” (UNEP 2011: 61). A narrower list could start from the subsidies that the World Bank and FAO identify as those that contribute directly to fishing capacity—vessel construction, renewal and modernization, fuel, surplus fish purchases, tax exemption programs, and fishing access agreements (World Bank-FAO 2009: 24). To address the potential production-distorting effect of fisheries subsidies, the prohibition could explicitly cover subsidies to fishing that targets stocks that spend part or all of their lives on the high seas. The prohibition could also be extended to address the particular biological vulnerability of fish stocks that the FAO assesses are currently overfished by prohibiting subsidies to fishing activity that targets those stocks.<sup>11</sup>

Most of the subsidies proposed for prohibition above are included, along with others and albeit with different wording, in the list of subsidies proposed for prohibition in Article I of the 2007 Chair text in the WTO negotiations. The 2007 text also includes subsidies to vessels engaged in illegal, unreported, and unregulated fishing in the list proposed for prohibition. It includes a prohibition for the subsidized transfer of access rights purchased by a government to its distant water fishing fleet, except in cases where the access purchased was to developing country waters and sustainability and transparency criteria are met.

According to the 2011 Chair report summarizing the progress of negotiations up to that point, “most delegations consider that in principle subsidies for construction of fishing and service vessels should be prohibited” (W/254: 51). Many WTO Members strongly support prohibiting price support subsidies, given their direct contribution to revenue enhancement and thus to overcapacity and overfishing, although others argue the subsidies are an important part of government efforts to ensure domestic food security

<sup>10</sup> See WTO document TN/RL/W/254, 21 April 2011.

<sup>11</sup> The number and location of the world’s overfished stocks would, of course, change over time, making the scope of this element of the prohibition dynamic. This might present a challenge for policymaking, but would better reflect the reality of the resource’s biological condition.

(W/254: 53). With respect to subsidized access rights, most WTO Members also support the prohibition on the subsidized onward transfer of fishing access rights, qualified by its exception (W/254: 55).

Views regarding subsidies to operating costs and infrastructure are more varied. The 2011 Chair report suggests that while several delegations support a prohibition on all operating costs, some of these members argue that the impact of different subsidies varies; others believe the impact can be mitigated by strong fisheries management. Fuel subsidies are “by far the most controversial” of the operating cost subsidies proposed for prohibition, given their size, their links to domestic taxation and pricing policies, and the fact that in some countries these tax rebates are provided horizontally and so fall outside the scope of the ASCM (W/254: 51–52).

Members' positions on subsidies to infrastructure reflect the difficulty of distinguishing the public and private good elements of fishing infrastructure. According to the 2011 Chair's report, Members disagree on what elements of port infrastructure expenditure are “general infrastructure” and are therefore excluded from the scope of the ASCM. They also disagree on whether any elements of port infrastructure that might fall within the scope of the ASCM (for example, facilities for landing and storing fish) provide a direct benefit to the fishing industry and thus should not be subsidized, or whether most elements of port infrastructure support management operations and therefore should be funded by governments (W/254: 52).

The 2007 Chair text is structured so the proposed disciplines would apply to fishing activity wherever it takes place, implicitly including activity on the high seas. The question of whether developing countries should retain the ability to subsidize high seas fishing is, along with fuel subsidies, one of the most controversial issues in the negotiation (W/254: 61). The 2007 Chair text also includes a prohibition on subsidies targeting “unequivocally overfished” stocks in Article I.2. While many delegations argue that this type of provision is essential, others are concerned about how the scope and application of such a provision would be defined, the 2011 Chair report notes (W/254: 54).

## ACTIONABLE SUBSIDIES

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Subsidies that support the provision of public goods but which may also be of private benefit and production enhancing could, instead of being prohibited, be made actionable. If the subsidy in question contributed to the over-fishing of a fish stock shared between the subsidising fleet and another fleet, the second fleet's government could seek a remedy against the subsidising government for the damage suffered.<sup>12</sup>

If not included in the prohibition, one kind of actionable subsidy could be those provided to fisheries-specific infrastructure which, as explained above, contains some elements of public goods but which also directly benefits the fishing industry and which, if not subsidized, would be a major business cost. Another candidate for the actionable category is subsidies to research that improves the efficiency of harvesting. The use of the technology produces some benefits to the public (less use of fuel, less environmental damage) but the research is designed to improve the industry's profitability, and so arguably sits further towards the private end of the public-private spectrum. Expanding on the idea of a prohibition of subsidies to high seas stocks, the actionable category could include any subsidy that benefits vessels that target other shared fish stocks not covered by the prohibition (for example, those shared between two or more EEZs) if the complaining government has an interest in that shared stock.

The 2007 Chair text includes this idea in Article IV.1 in the form of a broad “general discipline” under which WTO Members would have the right to a remedy if any subsidy provided by another Member had an adverse effect on a fish stock in which the first Member had “an identifiable fishing interest.” According to the 2011 Chair report, while many delegations support this provision as a complement to the prohibition, some others consider that adverse effects should, along with fisheries management, be the core of the disciplines (W/254: 63).

## NON-ACTIONABLE SUBSIDIES (CONDITIONAL)

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First among the group of candidates for a list of non-actionable (that is, permitted) subsidies are those that are designed to address the market failure of over-exploitation of the fisheries commons, but which may, if poorly designed, lead to production increases and undermine their own environmental objective. The challenge is to allow room for these types of subsidies to be provided, while ensuring they are designed so as to minimize the likelihood of production increases and, ideally, provide a way of ensuring that any production-enhancing effect the subsidy did have (despite complying with the requirements) could be remedied.

Subsidies associated with vessel decommissioning or license retirement programmes could be made non-actionable on condition that the programmes were implemented alongside systems of property rights in the affected fishery or very stringent management requirements. The requirements should be strong enough to prevent capacity or effort from being re-introduced into the fishery, and should have the effect of reducing catch if the fishery is already over-

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<sup>12</sup> Another, much more radical option, would make these subsidies actionable by any other government, even if they had no direct interest in the stock, purely on environmental grounds.

exploited (OECD 2006: 89). These requirements could include the scrapping of decommissioned vessels, a ban on entry of new vessels to the fishery, and time-limiting the subsidy (UNEP 2011: 61). One idea advanced by Ronald Steenblik is to limit the flexibility for decommissioning subsidies to a large, one-off “big bang” payment. With safeguards in place to prevent the funds being re-invested in the fishery, the programme would avoid negative trade or resource effects. Done credibly, it could discourage vessel owners from staying in the industry in the hope of future pay-outs. However, it also means that if a government subsequently found that its fleet was still too large after the round of decommissioning, it would need to use other policy tools to reduce fishing capacity.

Another candidate for inclusion in this non-actionable category is subsidies in the form of income support. Unemployment insurance for fishing employees could be allowed if it was provided at levels equal to those provided to employees in other sectors and, critically, if it was de-coupled from fishing activity (see UNEP 2011: 53; OECD 2006: 115). Laying-up subsidies to vessel owners could also be made non-actionable if they were de-linked from production (see OECD 2006: 115). However, because these income support payments would do nothing to reduce overcapacity (UNEP 2011: 55) they could also be time-limited to encourage gradual adjustment of the fishing fleet to sustainable levels (see OECD 2006: 116) and perhaps supplemented by re-training assistance.

Article II in the 2007 Chair text clarifies that subsidies for vessel decommissioning and other capacity reduction programmes would not be prohibited if strong fisheries management is in place and the vessels, harvesting rights, and any other claims associated with the targeted capacity are also destroyed or revoked. The decommissioning exception appears not to be discussed in the 2011 Chair report, which suggests it was a relatively uncontroversial idea in the overall scheme of the discussion.

Income support to individuals or companies is one of the subsidy types proposed for prohibition in Article I of the 2007 Chair text. The 2011 Chair report suggests views are very divided around what kinds of payments should fall into this category, the potential impact of different payments on fisheries resources, and therefore what disciplines should apply to them (W/254: 52–53).

## NON-ACTIONABLE SUBSIDIES (NON-CONDITIONAL)

Candidates for a broad exception from the disciplines (assuming they are subsidies at all) are forms of expenditure designed to manage the market failure of the fisheries commons and which have virtually no impact on production levels—management services and research undertaken to support management decisions.

As explained above, management services benefit the fishing industry but also benefit the general population. The dire need for better fisheries management suggests also that even if some of the expenditure does result in some benefit to the industry, the broader public benefits of improved understanding of the resource and of setting and enforcing management rules could justify a broad exemption for management services from disciplines on fisheries subsidies. One interesting question is whether there should also be an exemption, along the lines of the defunct ASCM Article 8.2c, for the capital and variable costs involved in compliance with that management system (for example, for the installation of vessel monitoring systems). Another interesting question is whether there should be, for clarity, a general provision that excludes the non-recovery of management costs from the definition of a subsidy, and, more specifically, an explicit exception for any subsidies involved in the process of establishing property rights in a fish stock, including, for example, clarifying that the exclusion of non-nationals from ITQs should not be considered a subsidy (see OECD 2003: 103).

If expenditure around fisheries management is exempt from the disciplines, then research expenditure that focuses not on improving harvest efficiency or productivity but on understanding and improving the health of the underlying stock could also be exempt from the disciplines. Ideally, this research would be distinguished from research whose main function is to improve harvest productivity. Research to support stock assessments, for example, is probably close to the public good end of the spectrum. Research into selective fishing gear, which reduces by-catch, is probably further towards the middle of the public-private spectrum, but is, at least arguably, also as much in the public interest as stock assessments are (UNEP 2011: 35).

In the 2007 Chair text, fisheries management and research expenditure is not subject to the disciplines, but the existence of a management system meeting certain requirements is used as a condition for the use of the general exceptions and some aspects of the flexibilities proposed for developing countries. Article II.e of the text provides a specific exception for “user-specific allocations,” including quotas. According to the 2011 Chair report, there is broad consensus around the core elements that should be present in fisheries management systems, but WTO Members hold very different views around the role management should play in the disciplines—as the core of the agreement or as a conditionality for exceptions (W/254: 64–65). Members generally agree, however, that “subsidies for vessel modifications exclusively for on-board safety, or for adoption of environmentally-friendly gear or techniques, or for equipment necessary for compliance with fisheries management, should be exempted from the prohibition” (W/254: 51).

## SPECIAL AND DIFFERENTIAL TREATMENT

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A third and final set of exceptions could allow low-income countries to provide production-enhancing subsidies, which would otherwise be prohibited, to support poverty alleviation and development objectives. Pursuing development objectives by subsidizing increased fishing capacity and effort is a risky strategy, in particular because of the likelihood that subsidized increase in capacity and effort could lead to pressure from fishers for larger catch limits and thus undermine management efforts to keep fishing at a sustainable level. Even if a fishery is under-exploited, as discussed above, there is a very real risk that increases in capacity will lead to overshooting the sustainable level of production and depleting the fish stock.

However, a multilateral agreement on fisheries subsidies would need to secure the agreement of a wide range of governments, and many low-income countries rely on fisheries subsidies to meet poverty alleviation goals in vulnerable coastal communities. A pragmatic option in a multilateral agreement might be to allow some of these subsidies to continue, while reducing as far as possible the harm they are likely to cause to the underlying resource on which the target communities depend.

Flexibilities for developing countries to continue to subsidize their fishing fleets could therefore be limited by one or more different mechanisms. The first mechanism, which would help to address the potential environmental effects of subsidized fishing activity, could draw on the sustainability criteria developed by Schorr and Caddy (2007). They include “minimum international requirements,” “minimum recommended conditions,” and “examples of possible best practices” across three kinds of criteria—fish stock-related criteria; fleet capacity levels; and fisheries management systems. To support the sustainable development of low-income countries’ fisheries industries, the use of otherwise-prohibited subsidies in these countries could be tied to achievement of the “minimum international requirements” level of criteria proposed. Where subsidies are used to support artisanal fisheries, the authors propose slightly adjusted sustainability criteria to reflect these fisheries’ less sophisticated management realities (Schorr and Caddy 2007: 33).

Other mechanisms could go some way to limiting the impact, both environmental and commercial, of low-income countries’ subsidised fisheries production. These could include limiting the exception to countries that each produce a “de minimis” level of global catch and only as long as they produce at or below that level. This is not dissimilar to the graduation mechanism contained in ASCM Article 27, under which WTO Members that reach export competitiveness in a given product begin to be subject to the ASCM disciplines on export subsidies. Subsidized increased capacity and effort also raises the risk of creating production distortions with

respect to shared stocks, including those shared with other low-income countries. Any production-enhancing subsidies could therefore be limited to vessels targeting stocks within a country’s EEZ, rather than those that are shared or spend some or all of their lives in another EEZ or in the high seas.

The 2007 Chair text proposes, in Article III, a sophisticated system of special and differential treatment for developing countries’ fisheries subsidies. The draft includes an exemption from the prohibition for least developed country subsidies; wide exemptions for subsidies to small-scale, inshore fishing; and progressively narrower exemptions for subsidies to larger-scale fishing. Flexibility to subsidise construction of larger fishing vessels is limited to vessels used within a country’s EEZ and is subject to sustainability criteria (including a prior stock assessment). These special and differential treatment provisions are among the most controversial issues in the negotiation. As the 2011 Chair report notes, “there are fundamentally different visions as to how [special and differential treatment] should be structured, what particular exceptions should be provided in which particular circumstances, and what conditions should apply to the different exceptions” and many very different approaches to the sustainability conditions that would accompany the flexibilities (W/254: 55).

Several delegations in the WTO negotiations have proposed an exception from the prohibition for subsidies for WTO Members that produce a de-minimis level of global catch. It is not an uncontroversial idea. The 2011 Chair report notes that many members are concerned that such an exception, if poorly defined, could provide flexibility for a high level of potentially damaging subsidies if many de-minimis amounts are considered together (W/254: 50). Finally, it is clear from the 2011 report that WTO Members are starkly divided on the question of allowing flexibility for subsidised high seas fishing (W/254: 61).

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## CONCLUSION

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This think piece has drawn on current evidence around the economic and environmental impact of subsidies to the fishing industry to take a “clean sheet” approach to how disciplines on those subsidies might be structured. In proposing options, the paper also identifies where the ideas are already reflected in the 2007 Chair text in the WTO fisheries subsidies negotiations and how each idea has been discussed in the context of those negotiations.

Fisheries subsidies have different economic and environmental impacts depending on their formal incidence and the bio-economic state of the fisheries they affect. With the exception of expenditure on fisheries management and the research supporting it, current evidence suggests that the most common subsidies are harmful in most circumstances, reinforcing the argument that disciplines are required. The fact that only a small fraction of global fisheries have any room for increased exploitation suggests that any exceptions to new disciplines should be carefully designed so as to minimize the potentially negative impact of production-enhancing subsidies on fish stocks, and thus on sustainable development in the long term.

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