

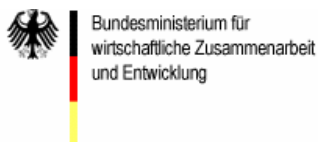
Policy Research – Implications of Liberalisation of Fish Trade for Developing Countries

Trade Issues Background Paper: The Impact of Subsidies on Trade in Fisheries Products

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This report forms part of a wider study on “Policy Research – Implications of Liberalisation of Fish Trade for Developing Countries”, comprising five trade issues background papers and five country case studies.

The trade issues background papers are dealing with the following topics:

- Sanitary and Phyto-Sanitary (SPS) Measures and Technical Barriers to Trade (TBT)
- Ethical/Social/Eco Certification, Labelling and Guidelines
- The Impact of Subsidies on Trade in Fisheries Products
- The Impact of Dumping on Trade in Fisheries Products
- Fiscal Reforms and Trade in Fisheries Products

The case studies cover the following countries:

- Bangladesh
- Guinea
- India
- Uganda
- Vietnam

For a synthesis of the entire study including policy recommendations, see: Bostock, T., Greenhalgh, P. and Kleih, U. (2004), Policy Research – Implications of Liberalisation of Fish Trade for Developing Countries – Synthesis Report. Chatham, UK: Natural Resources Institute. ISBN 0 85954 560-1.

Copies of the various reports are available on the following websites:

- www.onefish.org/id/225570
- www.nri.org/projects/projects/htm

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4. THE IMPACT OF SUBSIDIES ON TRADE IN FISHERIES ¹

4.1 Introduction

World attention was drawn to the scale of the global fisheries crisis and also the extent of fishery subsidies in 1992 with the publication of an FAO report, *Marine Fisheries and the Law of the Sea: A Decade of Change*. This report highlighted two main causes of the crisis: first many fisheries were not managed and were open access fisheries, and second ‘the annual operating costs greater than total revenues, with no account being taken of capital costs’ (as cited by Schrank 2003), i.e. marine fisheries were heavily subsidized, eliminating the market signals of over-fishing. Subsequently a number of reports have attempted to clarify what constitutes a subsidy and to estimate their magnitude. This debate has focused largely on developed country fisheries and fishing fleets and there is limited information on developing countries or at the micro level. Debates at the policy level have included submissions to the World Trade Organisation to investigate the trade status of fisheries subsidies and in the words of the US delegation to the WTO to take steps ‘toward the development of clarified and improved disciplines’ (WTO 2003). There are also on-going discussions in the FAO.

In the literature there is considerable debate as to what fishery subsidies actually are and what they include which complicates any discussion of their implications for markets, resources and livelihoods. A useful definition is provided by Westlund (2003) who defines fisheries subsidies as “government actions or inactions that are specific to the fisheries industry and that modify – by increasing or decreasing – the potential profits by the industry in the short-, medium- or long-term”. However, whatever the total level of subsidy that is directed at the fisheries sector, Schrank (2003) argues that the question of ultimate importance is the effect of government policy on the behaviour of the fishing company. Thus his definition of what constitutes a subsidy is more restrictive than other definitions that relate government policy to the profits of a particular fishing company as he argues that it is the reaction of the firm to the change in profits that is significant.

There is a dearth of information, particularly in any detail, of subsidies in developing countries, or indeed the implications of subsidies worldwide, for developing countries. Most discussion is based on subsidies in developed or middle-income countries, indeed members of the OECD account for at least 51% of all subsidies in the fishing sector (OECD 2003). However, the importance of fishery subsidies is underlined by their inclusion in the post-Doha WTO negotiating agenda.

Subsidies have long been part and parcel of the fishing industry, partly because of the public good nature of fisheries management and associated research, but also because of the precarious livelihood experienced by most fishing communities. Schrank (2003) provides short histories of fisheries subsidies in the USA, Canada, Norway, Iceland and selected South American countries (Peru, Chile, Brazil, Argentina, Uruguay) and dating back over two hundred years in some cases. These histories

¹ This paper was drafted by Anne Tallontire, NRI

highlight how subsidies were economically and socially justified when instigated and also the problems of institutionalisation and dependency when the original rationale has disappeared or benefits eroded.

Most of the literature on subsidies in fisheries focuses on marine capture fisheries rather than aquaculture. Within marine capture fisheries, it appears that the bulk of subsidies are aimed at offshore fisheries which are largely commercial requiring mechanised ocean-going vessels rather than coastal or inshore fisheries that are largely artisanal in nature. OECD and middle-income countries are responsible for the majority of subsidies, but some of these subsidies have implications for developing country fisheries and livelihoods of poor people. Most significant in this respect are bilateral fishing agreements, also known as bilateral access agreements (see Box 1).

The definition of fisheries subsidies is a tricky area for technical and also political reasons. With the increasingly prominent role of the WTO and pressures for liberalisation few governments want to admit to the extent of their subsidies that they may wish to protect for local political reasons. Transparency regarding subsidies is an issue: few members of the WTO have complied with their obligation to report subsidies, and the gaps in data collection by major studies by OECD and APEC reveal the extent of the problem (WWF 2001). The political sensitivity of the subsidies issue is highlighted by the use of euphemisms for subsidy: OECD refers to 'government financial transfers' and the FAO to 'economic incentives' (Schrank 2003). Subsidies may also be considered a type of incentive, and so data on subsidies may be intermingled with data on this wider policy instrument.

There are also large inconsistencies in the data publicly available: WWF compares the data presented by the OECD and APEC studies in comparison to reports to the WTO. Only the EU displays any consistency between the two sources (WWF 2001). The consultants for the OECD study gave governments the freedom to complete questionnaires themselves, leading to the potential for similar items to be categorised differently (Schrank 2003). Co-operation from government bodies can also be a challenge; for example, an FAO commissioned survey in 1997 faced a problem of very low response rates from member governments (Steenblik and Munro 1999).

There has been more attention in the literature to the trade effects of subsidies rather than their effects on sustainability, partly at least because the WTO has powers to police trade effects whereas the UN Convention on the Law of the Sea (UNCLOS) and the FAO has fewer sanctions. However, the recent FAO expert consultations have begun to consider sustainability and livelihood impacts and following from this the FAO has recently commissioned a case study of Senegalese fisheries that will focus on these issues. Another exception is the detailed study undertaken for DFID by the Marine Resources Assessment Group (MRAG), Cambridge Resource Economics and International Institute for Environment and Development produced in 2000, (henceforth referred to as MRAG) that considers the implications for developing countries of subsidies, particularly developed country subsidies for deep water fleets (DWFs) in the context of bilateral fishing agreements (Box 1).

This paper begins by describing various definitions of subsidies used in recent studies, highlighting what they cover and significant differences between them. It then

discusses work to date on assessing the impact of subsidies, focusing particularly on the implications for developing countries. This section draws considerably on the MRAG study. The next section discusses attempts to bring fisheries subsidies onto the agenda of the WTO and the related policy debate. The final section draws some conclusions and raises issues for the current study.

4.2 Defining and estimating the extent of subsidies

There have been three major studies that have collected data from governments to estimate the extent of fisheries subsidies and there is also data available in member reports to the WTO. These studies are:

- Milazzo (1998);
- OECD; the study commenced in 1997 and reported in 1999 and is summarised in OECD (2003); and
- APEC (2000).

In addition, the WWF (2001) has collated the data from the OECD and APEC studies and compared it with figures from the WTO (specifically from notifications under the Subsidies and Countervailing Measures agreement) and other public sources to derive what they see as more accurate and complete figures. The WWF study argues that the expenditure on subsidies has been consistently underreported both to the WTO and consultants hired by OECD and APEC. The actual extent of global subsidies they estimate to be in the region of \$15 billion rather than the \$12 billion implied by extrapolating the APEC study to cover all fisheries.

The main categories used in the Milazzo, OECD, APEC and WWF studies are summarised in Table 4.1, together with those of the WTO. Table 4.2 presents the studies' estimates of the magnitude of subsidies and subsidies reported to the WTO.

Table 4. 1: Contents of Key Studies on Fisheries Subsidies

Source	WTO	Milazzo (1998)	APEC (2000)	OECD (2003)	WWF (2001)
Term for subsidy	Financial contributions	Subsidies	Subsidies	Government Financial Transfers	Subsidies
Coverage	<ol style="list-style-type: none"> 1. Transfer of funds (e.g. grants, loans, equity infusions) 2. Potential transfers of funds (e.g. loan guarantees) 3. Foregone government revenue (e.g. tax preferences) 4. Goods or services (e.g. other than general infrastructure) 5. Payments to a funding mechanism or to a private body to perform any of the above 6. Price or income support programmes 	<p>Builds on WTO framework with addition of harvesting sector rather than entire fishing industry; With addition of</p> <ul style="list-style-type: none"> • Cross-sectoral subsidies such as: (a) those to the shipbuilding industry that may impinge on fisheries; and (b) infrastructure spending that may or may not be targeted to fisheries infrastructure but which is paid for by government and which affects fisheries; • Resource rent subsidies; and • Conservation subsidies e.g. vessel and fishing permit buybacks, stock enhancement, retraining of fishermen and research and development of environmentally improved gear. 	<ol style="list-style-type: none"> 1. Direct assistance to fishermen and fish workers; 2. Lending support programmes; 3. Tax preferences and insurance support programmes; 4. Capital and infrastructure support programmes; 5. Marketing and price support programmes; and 6. Fisheries management and conservation programmes <p>Explicitly includes support programmes that would not ordinarily be considered subsidies</p>	<p>Government interventions that alter the incentive structure</p> <ol style="list-style-type: none"> 1. Cost-reducing transfers and direct payments 2. General services including: <ul style="list-style-type: none"> • Management • Enforcement • Surveillance • Port infrastructure • Regional development grants • Expenditure to promote international fisheries co-operation. <p>Discusses but does not include in measurement market price support</p>	<p>Does not usually include cost of public fisheries management as a subsidy, but as OECD and APEC combine this in general categories, frequently these costs are included in the WWF estimate.</p> <p>Uses the APEC classification but moving worker adjustment programmes and fisher retraining from category 1 to category 6.</p>

Table 4.2: Estimates of Magnitude of Fisheries Subsidies

Source	WTO	Milazzo (1998)	APEC (2000)	OECD (2003)	WWF (2001)
Estimate of subsidy values	WTO annual notifications as reported by WWF 2001 1996 – \$5.85 bn 1997 – \$0.82 bn	Annual average 1990s - \$14 billion to \$20.5 billion	1997 - \$12.6 billion	1996-- \$6.95 billion 1997 - \$6.38 billion 1998 - \$5.481 billion 1999 - \$5.97 billion	Late 1990s, estimate correcting for under-reporting £15 billion
Countries included	All members	Global	Pacific Rim countries	OECD member countries	Global
Coverage	?	100%	Approx 70% of production	Approx 51% of global subsidies	100%

Note: No studies comprehensively survey developing countries.

The WTO's definition of subsidies in the Subsidies and Countervailing Measures (SCM) has been used as a basis for analysing subsidies in the fisheries sector, e.g. by Milazzo (1998), see below. As fisheries were excluded from the 1994 Agreement on Agriculture, the sector is subject to the general disciplines specified by the WTO SCM. However, the WTO definition of subsidies within the agreement is somewhat narrower than those used by most studies as it is chiefly concerned with the trade effects of subsidies in general, rather than effects on conservation or fisheries management. The SCM defines subsidies as, *inter alia*:

- Specific financial transfers from state to the industry (including implied transfers such as loan guarantees) e.g. EU FEOGA/FIFG grants for vessel or fish farm construction.
- Conversely, the state foregoing normally collectable revenue (e.g. tax free fuel) Provision of services or investments to industry that would not “normally” be state provided. E.g. indirect subsidies such as state cold storage facilities or specifically targeted research programmes.²
- State purchases of industry outputs other than on commercial terms e.g. state purchase of farmed salmon gluts as countenanced by the Norwegian government in 1990.
- All forms of state income or price support (e.g. production subsidies designed to maintain prices, reference prices etc.).

In addition subsidies are categorised in relation to the rights of members to make complaint and take action (countervailing measures) with respect to alleged trade-distorting subsidies undertaken by other members.³ In this respect there are two categories of subsidy:⁴

² Some commentators, such as WWF (2001), argue that research and some fisheries management services should not be considered subsidies, or at least not ‘bad’ subsidies, as they are necessary due to the public good nature of the fisheries resource.

³ The extent to which subsidies may risk challenge in the WTO under the SCM is discussed in detail in APEC (2000).

⁴ Until January 2000, there was a third category of subsidy: non-actionable. This was a subsidy that could not be challenged unless they were prohibited subsidies and includes pre-competitive assistance for research activities (i.e., support provided prior to development of products for market use); assistance to disadvantaged regions as part of a regional development assistance program; or assistance

- Prohibited: including export enhancing subsidies or subsidies giving preference to domestic producers or grants tied to the use of domestically produced goods.
- Actionable: a subsidy that may be challenged on the basis of causing 'adverse effects' to the interests of other WTO members and if the subsidy is specific to an enterprise or group of enterprises or industries (generally available subsidies are permitted).

In practice many subsidies in the fishing sector in both developed and developing countries are either prohibited or actionable subsidies (Grynberg 2003).

There is general agreement that the WTO definition of subsidies in the context of the SCM is not broad enough for an assessment of fisheries subsidies as it does not take into account issues related to public goods and the management of open access resources. Nevertheless, the WTO's definition has been the foundation for a number of studies. Milazzo (1998) adapted and added to the WTO categories of subsidies in a groundbreaking attempt to quantify the level of worldwide subsidies, focusing on subsidies with direct fiscal implications to governments. He treats separately subsidies that reduce exploitation effort; divert producers from activities that promote over-exploitation to more benign economic endeavours; are intended to enhance the resource base and/or hasten the development of more environmentally benign harvesting technology.

In his estimate, Milazzo distinguishes between budgeted and unbudgeted subsidies. Unbudgeted subsidies he suspects are likely to be more significant in developing countries. One of the main difficulties experienced in this study was that he relied on publicly available data that was rarely disaggregated to the level required to distinguish between different kinds of expenditure, a problem that is acute with unbudgeted subsidies including subsidised lending and tax preferences. Many of his estimates for specific items and countries are therefore quite rough. Another challenge is the estimation of resource rents, which is really a hypothetical category related to the tendency to under-price natural resources. He refers to the unrecovered costs of fisheries management, the cost of collateral environmental damage and the value of the fish removed from the sea. Whilst the legitimacy of user fees is not questioned with respect to other natural resources such as forest, oil and gas reserves, Milazzo notes that user fees for use of marine resources are less frequently charged; for example, fees to private companies benefiting from bilateral fishing agreements. No other study attempts estimation of resource rents.

Nevertheless, however, Schrank (2003) considers that Milazzo's estimate for the global level of subsidies in the range of \$14 billion to \$20.5 billion to be 'reasonable'. This study does not go on to consider the implications of these subsidies for the behaviour of fishing firms.

to promote adaptation of existing facilities (facilities in operation for at least two years) to new environmental requirements.

The APEC study conducted by Price Waterhouse Coopers (APEC 2000) uses a relatively broad definition of subsidies (including fisheries management costs, not usually considered a subsidy, but not including general subsidies that may apply to fisheries) and provides a very detailed breakdown of categories in its attempt to quantify subsidies. It organises the data on subsidies into six categories (see Table 4.1). The study relates to members of the Asia Pacific Co-operation and includes data on Canada, Chile, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, Mexico, New Zealand, People's Republic of China, Peru, Philippines, Singapore, Thailand and United States. Covering both developed and less developed countries, this study covers in the region of 70% of fisheries production and so is likely to deal with the vast majority of the subsidies that are applied in the sector, with the exception of the European Union.

WWF use an adapted version of the APEC classification due to its level of detail and therefore usefulness for allocating and then adding up the data on different kinds of subsidies from various sources.

Reference should also be made to a fifth study on fisheries subsidies by Westlund (2003) that provides a useful categorisation, but does not attempt an estimate of subsidy values, rather provides a detailed guide on how subsidies may be estimated, both in terms of the cost to government and the value to the industry. Cost to government and value to the industry are likely to be very different sums involving different processes of estimation, some more straight forward and accurate than others. No other study makes this distinction which is important in furthering the debate on the impacts of subsidies. This FAO commissioned study is part of an on-going debate in the FAO on subsidies and is expected to be used in the recently commissioned field study of the impact of subsidies in Senegal. Westlund (2003) suggests that there are four basic categories of subsidy:

1. Direct financial transfers, e.g. investment grants to purchase vessels;
2. Services and indirect financial transfers, e.g. import quotas, fuel tax exemptions;
3. Interventions with different short and long term effects, e.g. environmental protection programmes, gear regulations;
4. Lack of intervention, e.g. free access to fishing grounds.

The methodology in the Guide focuses largely on costs and values in the short-term, and in terms of impact, the short-term effects of subsidies on profits. It is acknowledged that in the long-term subsidies will 'affect the actual structure of the industry' and so it is important to track long-term impacts, but that this is very difficult to do (Westlund 2003: 58). However, estimation of short-term impacts on profits is seen as an important interim step. We return to the issue of impact in Section 4.

From the tables, it can be seen that there are some disparities between the studies as regards both what is considered a subsidy and also the value attributed to subsidies. Areas of dispute regarding the categories of subsidy to include resource rents and market and price supports. As regards the estimates, compared to the Milazzo and WWF studies, the OECD estimate appears rather small. It should also be noted that the WTO notifications are particularly low and vary considerably from year to year; very few members fulfil their obligations regarding notification and the figure can be affected by single notifications in some instances.

Box 1 :Bilateral fishing agreements

Under the United Nations Convention on the Law of the Sea the exclusive fishing zones of coastal nations (also known as exclusive economic zones, EEZ) was extended in 1976 to 200 miles as opposed to the customary 12 miles. This meant that many DWF were excluded from fishing in what had been their traditional waters. Agreements were therefore reached between the home governments of the deep-sea fleets and the coastal nations so that these fleets could continue to fish, but the owners of the fisheries could be compensated. Such bilateral fishing agreements were particularly arranged between large fishing nations and developing countries that did not have the capacity to exploit deep-water fisheries. Typical examples include between Japan and South Pacific states, Korea and other South East Asian nations and the European Union and African coastal states. Partly as a result of these agreements, there has been a considerable increase over the last few decades in the volumes of fish being landed in developing countries. In the late 1990s over half of the yield harvested off the shore of West Africa was accounted for by the deep water fleets, usually registered in Europe (Payne 2000 citing Brandt 1999).

Bilateral fishing agreements are made between states, but constitute subsidies, argues MRAG (2000) where the cost of the agreement is not passed on to the industry. These subsidies tend to be justified by the fact that the home government was party to UNCLOS and therefore the restrictions on foreign fishing in EEZ.⁵ However, MRAG (2000) points out that they are inconsistent with WTO disciplines.

EU fishing access agreement with ACP countries

The EU has arranged access for EU deep water fleets in the fisheries of several African and other developing country nations (see annex 1). Bilateral fishing agreements account for one third of the EU fisheries budget, which was \$400 million in the late 1990s (MRAG 2000). These are part of the trade and development agreements between the African, Caribbean and Pacific nations (ACP) and the EU as set out initially in the series of Lomé Agreements and later the Cotonou agreement. Through these agreements, fishing firms within the EU gain access to the ACP waters in return for the EU allowing preferential access of the foreign partner's fish products to EU markets.

There is some debate regarding the extent to which the fact that government rather than fishing companies pay for the fishing rights constitutes a subsidy, and regarding the extent of the subsidy. Issues to consider with respect to the EU-ACP fisheries access and trade agreements according to Schrank (2003) include:

1. The level of the payment in kind to the individual fishing firm on account of it not having to pay for the access; this can be simplified if there are comparable firms from a different country that do have to pay a user fee.
2. The extent to which the trade agreement providing preferential access for the ACP country negates the positive subsidy aspects of access to the fishing grounds.

In practice, due to the low level of development of some ACP fishing fleets, the level

⁵ Schrank (2003) however notes that there have been moves to the introduce user fees for the fishing fleets

of competition offered by preferential access is likely to be low. However, MRAG (2000) offers some examples of conflict between EU DWF and fishing fleets of the coastal nations (e.g. conflict between Mozambican vessels in inshore areas, some damage to Senegalese vessels by DWF vessels).

There are a number of policy issues related to bilateral fishing agreements, including the level of fee paid for access to these coastal waters, the extent to which the fishery is properly managed and monitored and the often complicated linkage between the agreements and aid packages. The EU's access to developing country fisheries is associated with the Lomé and subsequently Cotonou agreements with the ACP states. Moreover responsibility for the agreements is split between two EU bodies- DG Fish and DG Development- with competing mandates (Payne 2000). Part of the compensation payment from the EU to coastal ACP states for access rights is supposed to pay for management of the fishery including monitoring and assessment of the resource. This in effect absolves the EU from such responsibilities. However, the capacity of the coastal state to undertake such management, especially when it has no deep-water vessels of its own, has not been taken into account in the Lomé agreement. However, due to the changed global marine policy climate following the development of the FAO Code of Conduct for Responsible Fisheries, the Cotonou agreement and the Common Fisheries Policy will be under pressures to consider proper fisheries management and conservation of stocks, especially in developing country coastal waters.

The reform of the Common Fisheries Policy in the EU has announced that 'fisheries partnership agreements' with a sustainability agenda will replace fisheries access agreements, suggests a positive change, but these agreements have the potentially conflicting objective of protecting EU fishing interests.

Another trend that may affect bilateral fishing agreements is the increasing use of joint ventures between fishing companies from developed countries with developing coastal nations (MRAG 2000).

4.3 Subsidies used in developing countries

The discussion above largely focuses on subsidies that are directed at the fisheries sectors in developed or middle-income countries. This is largely due to the ease of access to data but also because the vast majority of subsidies in the sector are in middle-income and particularly developed countries. Moreover, MRAG (2000) argues that subsidies on DWF from developed countries 'are likely to have a much greater impact' on developing countries as compared to subsidies given by their own governments. Similarly, it has been noted that the type of subsidy most frequently found in developing countries is in form of bilateral or multilateral development projects.

There are however, some subsidies in developing countries in the fishing sector. Some examples are given below:

- In developing countries port facilities are more likely to be owned and managed by the public sector. If the facilities have no other commercial or community use

beyond fishing, then this can be considered a direct subsidy to the industry (MRAG 2000).

- Subsidised lending (Milazzo 1998) and credit provision, e.g. in the Philippines, Papua New Guinea, and Mexico. In some cases these were meant for the poor and less-privileged to adopt new technology e.g. new craft-gear combinations. In Sri Lanka for example, the drive for craft mechanisation in the late 1950's was implemented using a high rate of subsidization of crafts (up to 50%) and the ordinary fishermen benefited significantly from this move. But in other cases, poorer fishers have faced barriers in taking up credit due to either a) the high initial costs of new technology, and/or b) the inability to provide appropriate collateral (Personal comm. G Macfadyn).
- Sales tax exemptions for inputs used by the fishing industry provide general support for the industry. They appear to be popular among the island nations of the Caribbean (Schrank 2003).
- Subsidised fishing inputs in the form of import-tax exemptions occur in Albania, Burkina Faso, Nigeria, Gulf States, Tanzania, and West Indies). In some cases the subsidy is tied to the use of sustainable fishing equipment (e.g. Oman) (Pers com G Macfadyn).
- The case study on India outlines a comprehensive range of subsidies affecting the fishing sector e.g. subsidies on fuel, electricity, engines, lending and institutional support.

The MRAG study cautions that in the case of developing countries the policy basis for fishery subsidies should be carefully scrutinised, especially in the international policy climate in which there are loud calls to ban all subsidies in the sector. It is noted that it is not always a subsidy that is the cause of negative impact on stocks or trade, rather it is the 'failure of most fisheries management regimes to effectively regulate capacity' (MRAG 2000: 18). The removal of subsidies is likely to leave continued negative impacts in many cases.

4.4 Studies on the impacts of fisheries subsidies

In the literature by and large the impact of fisheries subsidies is discussed in the abstract with the use of theoretical models. Quantitative modelling is acknowledged to be extremely difficult in the absence of detailed and accurate data on the extent of subsidies and also due to the multiple causes of changes in fisheries stocks. There have been some recent efforts to consider impacts using case studies and qualitative modelling, the most significant being a study commissioned by DFID and undertaken by MRAG in collaboration with CRE and IIED in 2000, which focused specifically on the implications of subsidies on deep water vessels that benefited from bilateral fishing agreements. This is discussed in detail below.

There has also been a discussion in the FAO on the impacts of fisheries subsidies. In November 2000, FAO sponsored an Expert Consultation on Economic Incentives and Responsible Fisheries that began a discussion on the impacts of fisheries subsidies. It highlighted the difficulties involved in measuring the impact of subsidies on fish stocks and emphasised that subsidies were only half of the story, rather it was necessary to consider the link between subsidy and behaviour in the context of fisheries management practices. This consultation highlighted that not all subsidies

necessarily have negative influence on fish stocks if there are effective management systems in place. The expert consultation also discusses methodological challenges and recommended further research in the area of impact assessment. This led to the study by Westlund (2003) discussed above which provides a detailed methodology for quantifying subsidies in terms of the cost to government, and more significantly the value to the industry. Following on from this, the FAO has commissioned a detailed case study of fisheries subsidies in Senegal.

With respect to abstract models, OECD (2003) presents a simple qualitative economic model based on the work of Hanesson. This considers the effects of giving government financial transfers to fisheries and suggests that in the main where there is catch control or preferably effective fisheries management, GFT have no effect on the total catch or the price of fish. Under effective fisheries management there should be no long-term effect on trade or on the rest of the economy, but the profitability of the industry should rise. Under open access the total catch increases initially, but then falls in the long run if the stock is exploited beyond maximum sustainable yield. However prices should rise, if the catch falls, alongside the profitability of the industry, especially for companies that are well-managed. The important caveat regarding impacts is therefore to have a well-managed fishery. This is not the case on the high seas outside of the exclusive economic zones and in many coastal waters of developing countries. Thus the main concern regarding the effect of GFTs is in the context of open access fisheries.

However, the diagrams presented by Flaaten and Wallis (2000) that model the effect of revenue enhancing transfers on effort and total revenue and yield and stock levels in different situations -over-fished and under-fished cases- raises concerns even in the context of well-managed fisheries. They argue effort will increase as a result of transfers even when there are restrictions on vessels as in the long run 'in a dynamic business environment technical improvements are likely to expand real capacity and effort'.

Schrank (2003) argues that there is considerable potential for economic and bio-resource modelling, at the same time there is a need for more detailed empirical work on actual subsidies and the contexts in which they are applied.

The interaction between context and subsidy is a key theme of the MRAG study on the impacts of subsidies in developing countries (2000). Case study developing country coastal/island states are examined in this study in relation to the bilateral access agreements that subsidise the DWF of European Union countries operating in the EEZ of each of the cases. The main DWF nations (EU and non-EU) that have such subsidised access and the main species that are fished in these areas are shown in Table 4.3. It is argued that bilateral access agreements (See Box 1) are the kind of subsidy that have most impact on developing country coastal and island states. The study goes on to provide a useful typology of coastal developing countries with respect to their vulnerability to impacts, both negative and positive, from subsidies. The categories of developing country are shown in Table 4.4.

Table 4.3: DWF Countries operating in Case Study countries

Case Study Country	Main DWF nations	Main species
Cape Verde	France, Portugal, Spain	Tuna, shrimp
Mauritania	France, Portugal, Spain, Japan, Russia, Ukraine, Estonia, Latvia	Cephalopods, hake, tuna, small pelagics
Mozambique	Spain, Japan	Shrimp, tuna
Namibia	Spain, Japan, Namibia	Hake, small pelagics
Senegal	France, Spain	Cephalopods, tuna, small pelagics
Seychelles		Tuna

Source: MRAG 2000

Table 4.4: Typology of coastal developing countries

Vulnerability type	Case study example
Poor, resource-dependent coastal states without local fishing industry	Mauritania
Poor, resource-dependent coastal states with local fishing industry	Mauritania (pelagics, demersals, including cephalopods) Senegal (tuna and demersals, including cephalopods) Mozambique (shrimp) Seychelles (tuna)
Wealthier, resource-dependent coastal states with local fishing industry	Cape Verde Namibia Seychelles
Wealthier, economically diversified coastal states	Namibia
Small island states	Seychelles

Source: Derived from MRAG 2000

The study identifies six stages (and a variety of critical factors for each stage) in the subsidy-to-impact process. These are:

1. Types of subsidy (direct financial assistance, indirect financial assistance, resource rent subsidies, price supports, trade restrictions, targeted assistance for DWF);
2. Types of effects of subsidies (on costs of fishing, fishing effort, incentives to access a fishery, effects on home and foreign trade);
3. Types of access mechanisms and subsidy conditions;
4. Types of fishing fleets and fisheries;
5. Types of resource impacts (on target species, by-catch and indirectly affected species -fish numbers, fish sizes, overall stock);
6. Types of economic and social impacts (economic value of natural resource loss, national accounts and income flows, trade implications, investment, government revenue, livelihood opportunities, incidence of poverty, community disintegration/ migration, skills base, nutritional impacts).

It is acknowledged that it is very difficult to link subsidies directly to impacts because of the wide range of subsidies that may be applied and of mechanisms by which their effects are transmitted. Moreover, as we note above, the subsidy itself may not be the

cause of potential negative impacts, this may well be poor management regimes or the lack of management regimes.

Key steps in analysis, according to MRAG (2000) include:

- Identifying the specific effects of different kinds of subsidy;
- Identification the extra effort employed by fleets;
- Mapping implications for the resource;
- Translation of the resource effects into social and economic impacts.

The MRAG project report provides considerable detail on each of the studies and summary tables indicating both negative and positive impacts from the access agreements organised under three headings: biomass and stocks; economic and social. Negative impacts are summarised in Table 4.5 and positive impacts in Table 4.6. It should be noted that in the case of Mozambique very limited negative impacts were listed and in the case of Mauritania there were no positive impacts reported.

Table 4.5: Negative impacts

Biomass and Stocks	Economic	Social
Excessive catches Reduction of inshore stocks or specific species Interruption of artisanal fishing Reduction in certain species due to by-catch	Dumping on local markets Insufficient local landings for efficient operation of local processing Domination of the local market by foreign fishers Loss of value added in the country Damage to local vessels	Reduction in employment in processing Reduction in local fishing incomes Decrease in availability of fresh fish on local market Limited opportunities for employment on foreign vessels

Source: Derived from MRAG 2000

Table 4.6: Positive impacts

Economic	Social
Landings from DWF used by local processing industry Development of by-catch industry by artisanal fishing sector Development of local processing with joint venture partners Contribution to export earnings Local canning industry	Employment in processing By-catch offers source of protein for local community Employment of fishing crew on joint venture vessels Training and employment support Research

Source: Derived from MRAG 2000

These impacts are very context-specific and vary considerably in magnitude and are difficult to isolate from other factors affecting the sector. The role played by good fisheries management systems was highlighted in the case studies. For example, the monitoring, control and surveillance of DWF by Namibia was commended whereas in countries such as Cape Verde, Mauritania and Mozambique systems were particularly poor to the extent that marine resources are likely to be over-exploited whether or not there were access agreements with DWF. They conclude that the most important factors that affect the impact of subsidies on resources and livelihoods in developing country coastal and island states are:

- The commitment of LDC governments to the control and regulation of fishing activities including capacity and fishing effort;
- The commitment of LDC governments to introduce adequate measures to maximise rent extraction from subsidies;
- The adequacy of legislation and its implementation with reference to illicit fishing within LDCs;
- The position of fisheries within national economic and social development priorities;
- The implementation of adequate macro-economic policies to stimulate growth and investment in the fisheries sector.

(Quoted directly from MRAG 2000: 34-5).

The MRAG study also calls for greater policy coherence in the EU.

A paper on the implications of DWF and other subsidies for Central and Western Pacific island states is generally more positive about their implications for fish stocks (Grynberg 2003). Despite the heavy dependence of some island states such as Kiribati and Tuvalu on access agreement fees, in most cases in this region there are no negative implications for fish stocks as the fisheries are well-managed, largely as a result of the terms in the access treaty with the USA (Grynberg 2003). The US fishing treaties are compared with the last generation of European Union fishing access agreements which have tended to ‘exacerbate unsustainable fisheries practices’ as access fees are based on reported catches (Grynberg 2003:507)⁶. Grynberg (2003) recommends that access agreements are ‘de-coupled’ from development assistance, as in the Japanese model.

4.5. International debates and action on subsidies

The main international body with authority on fisheries is the FAO, with the UNCLOS and the FAO Code of Conduct on Responsible Fisheries as the main policy instruments. The most recent agreement to try to deal explicitly with the global over-fishing problem is the UN Convention on Highly Migratory Stocks and Straddling Fish Stocks of 2001. Despite arguments from many camps that the FAO is the most appropriate body to deal with issues related to fisheries conservation and sustainability, there have been increasing demands for fisheries and particularly subsidies to be brought to the attention of the World Trade Organisation and to subject fisheries subsidies more explicitly to the rigours of WTO trade law. Pressure has come from both environmental non-governmental organisations such as Greenpeace and the World Wide Fund for Nature (WWF) and a group of WTO member states known as the ‘Friends of Fish’.⁷

⁶ An alternative model with less incentive to under-report is to base fees on number of fishing trips, used in Japanese agreements.

⁷ Grynberg (2003) examines the motives of some of the Friends of Fish, suggesting that Iceland and New Zealand are keen to create a level playing field and push for the exit of less efficient fishing nations and so are motivated by competitive advantage; the USA he argues is less interested in commercial interests but in demonstrating that it does have an international environmental agenda; Australia is also deemed to have a political rather than economic or technical agenda. Grynberg disputes whether the developing countries involved in this grouping will be able to stomach any changes to the subsidies regime if they were required to change.

The first submission to the WTO on this topic was in June 1999 by five nations (Australia, Iceland, New Zealand, the Philippines and the United States) leading to discussion in the Committee on Trade and the Environment (CTE) in October 2000). This was followed by a second phase submission by eight members (the original five plus Chile, Ecuador and Peru) in April 2002. It was argued that fisheries subsidies have trade effects greater than those in other sectors and beyond the distortion of competitive relations, because fisheries subsidies lead to a reduction in the potential of other nations to produce. Due to the mandate of the WTO, these submissions focus on the trade effects of fisheries subsidies rather than the broader sustainability agenda. However, the attention of the WTO is being brought to fisheries subsidies due to the apparent failure of other mechanisms to deal with over-fishing and the apparent limitations of the SCM to deal with the specificities of the fisheries sector. Specifically the open access nature of many fishing grounds and the migration of fish between areas are highlighted and are argued to have implications beyond limitations on competitiveness. The Friends of Fish note three implications of this phenomenon (as described by Schrank 2003):

1. Countries that do not subsidize and that restrain total catch to maintain the resource lose the extra catch to countries that subsidize and do not restrain total catch;
2. Competition from subsidized distant water fleets can make it economically unviable for developing countries to develop their own fisheries and therefore to realize the benefits of their own 200-mile zones of fishery jurisdiction;
3. Subsidies can contribute to stock depletion, with negative economic, trade and environmental effects for other countries that have an interest in the stock.

Schrank claims that the first two arguments are not specific to fisheries and are therefore not deserving of special treatment under WTO and need measures that are more subtle than tools available under the SCM. Moreover, he argues that countervailing measures are unlikely to be effective where the effects of subsidies are on domestic consumption rather than exports. The third argument is about sustainability and should, he argues, be referred to UNCLOS.

Indeed, member nations opposed to the WTO submissions on fisheries subsidies, the most vocal of which has been Japan,⁸ argue that the issue is better dealt with through improved fisheries management rather than simple elimination of subsidies and assert that action in this area is under the jurisdiction of the UNCLOS rather than WTO. It should be noted that some of the most vocal opponents of the WTO submission are heavy subsidisers themselves. Nevertheless an assessment of the potential outcomes from WTO action in this area suggests that they will have limited effects on the sustainability of fisheries and may actually have damaging effects on some developing country island economies, such as Kiribati and Tuvalu (Grynberg 2003: 510). The potential outcomes of debates on new disciplines on fisheries subsidies at the WTO considered by Grynberg (2003) include:

- A variation of the traffic light system in the Agreement on Agriculture;
- Amendments to the SCM;
- The development of case law through the Dispute Settlement Mechanism.

⁸ Interestingly, the EU has been relatively quiet in these trade debates, but was more active in discussions at the Johannesburg summit on Sustainable Development in 2002 in relation to international agreements to limit fish catches to sustainable levels (Grynberg 2003).

The first of these would be the most comprehensive and potentially most effective mechanism provided that special and differential treatment is included for developing countries and environmental clauses were added to the agreement. Grynberg (2003) regards the first of these provisos unlikely and the second unprecedented. The most likely outcome, if negotiations were to go ahead, he argues, is an amendment to the Subsidies and Countervailing Measures agreement. However, there remains considerable opposition to moves to change the 'architecture' of the WTO and so if there are really pressures to change rules, it may well be through the Disputes Settlement Mechanism, which has the least predictable outcomes and is least likely to take into account the policy reasons for subsidies and differentiate between 'good' and 'bad' subsidies. Grynberg (2003) agrees with Schrank (2003) that the proper forum for discussion of fisheries subsidies, and one more likely to lead to sustainability in fish stocks, is the FAO.

4.6. Conclusions

Fisheries subsidies are firmly on the international agenda. It has been argued that fisheries access agreements are the kinds of subsidy that have most impact on developing countries. These subsidies have both positive and negative impacts which are very site and context specific. Whilst there appears to be a general consensus that subsidies inevitably lead to over-exploitation of fish stocks and by implication negative social and economic impacts, this is not necessarily the case. A more important factor appears to be the existence of an effective fisheries management system, which in some cases is paid for by subsidies. It is clear that the removal of subsidies alone will not solve the problem of over-exploited fisheries.

Should the WTO begin to define new disciplines with regard to subsidies in the fisheries sector, it will be important to ensure that there are clauses related to the Special and Differential Treatment of developing countries. The recognition of the developmental needs of developing countries in this sector appears to be lacking in recent submissions to the WTO.

Finally, this brief summary of literature on subsidies in the fisheries sector highlights the limited knowledge that exists on the implications of subsidies, their removal and liberalisation more generally on the livelihoods of people in developing country coastal and island states, particularly those dependent on fishing. The two studies cited that specifically refer to developing countries (MRAG 2000 and Grynberg 2003) offer useful methodological insights and highlight the considerable differences between countries. However, there still appears to be a need for more detailed information at the grass roots level.

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Annex 4.1

Value of production under bilateral agreements between EU member states and third countries (EU million)

EU member state	Average	%	Third country	Average	%
Spain	399.64	82.48	Angola	24.42	5.04
France	34.80	7.18	Cape Verde	0.94	0.19
Greece	0.66	0.14	Comores	1.36	0.28
Italy	6.72	1.39	Ivory Coast	9.21	1.9
Netherlands	8.72	1.80	Gambia	0.12	0.02
Portugal	33.72	6.96	Guinea	3.59	0.74
United Kingdom	0.25	0.05	Guinea-Bissau	32.34	6.67
Total	484.51	100	Equatorial Guinea	2.42	0.50
			Madagascar	3.24	0.67
			Morocco	259.07	53.67
			Mauritius	0.45	0.09
			Mauritania	97.46	20.12
			Mozambique	0.26	0.05
			Sao Tome	0.92	0.19
			Senegal	24.20	5.0
			Seychelles	24.52	5.06
			Total	484.51	100

Source: MRAG 2000

Abbreviations

APC	African Caribbean and Pacific
APEC	Asia Pacific Economic Co-operation
DFID	Department for International Development, UK
DWF	Deep water fleet
EEZ	Exclusive Economic Zone
FAO	Food and Agriculture Organisation of the United Nations
FEOGA	
FIFG	Financial Instrument of Fisheries Guidance (EU)
GFT	Government Financial Transfer
MRAG	Marine Resources Assessment Group
OECD	Organisation for Economic Co-operation and Development
SCM	Subsidies and Countervailing Measures Agreement
WWF	World Wide Fund for Nature
WTO	World Trade Organisation
UNCLOS	United Nations Convention on the Law of the Sea