The Marine Stewardship Council (MSC) and the Making of a Market for 'Sustainable Fish'

Ponte, Stefano

Document Version
Accepted author manuscript

Published in:
Journal of Agrarian Change

DOI:
10.1111/j.1471-0366.2011.00345.x

Publication date:
2012

License
Unspecified

Citation for published version (APA):
Ponte, S. (2012). The Marine Stewardship Council (MSC) and the Making of a Market for 'Sustainable Fish'. *Journal of Agrarian Change*, *12*(2-3), 300-315. https://doi.org/10.1111/j.1471-0366.2011.00345.x

This is the accepted version of the following article: Ponte, S. (2012), "The Marine Stewardship Council (MSC) and the Making of a Market for 'Sustainable Fish'", **Journal of Agrarian Change**, Vol. 12, No. 2-3, pp. 300-315. DOI: 10.1111/j.1471-0366.2011.00345.x
It has been published in final form at http://onlinelibrary.wiley.com/doi/10.1111/j.1471-0366.2011.00345.x/abstract

The Marine Stewardship Council (MSC) and the Making of a Market for 'Sustainable Fish'

STEFANO PONTE, Danish Institute for International Studies, Strandgade 56, 1401 Copenhagen C, Denmark, spo@diis.dk

For publication in *Journal of Agrarian Change*

Market-based instruments of fishery governance have been promoted in the past 10-15 years on the basis of two widespread expectations: that complying with standards and guidelines embedded in certification systems will lead to environmental benefits; and that sustainability certifications will not discriminate against specific social groups and countries or regions because they are 'market-based'. This article assesses whether these assumptions hold through the analysis of the Marine Stewardship Council (MSC) label for capture fisheries. It does so by examining how MSC has managed 'supply', 'demand' and 'civic' concerns in the market for sustainability certifications in capture fisheries. So far, MSC has been able to create and dominate the market for 'sustainable fish', but success has also been accompanied by serious challenges: first, MSC has so far failed to convincingly show that its certification system has positive environmental impacts; and second, it has marginalized Southern fisheries, especially in low-income countries. This has resulted in a peculiar configuration of the 'sustainable fish market', where we have a dearth of information on whether it is actually 'sustainable' and where a large majority of MSC-certified fish is captured in Northern fisheries, despite the fact that around half of total global exports of fish originate in the global South. As an institutional 'solution' to the global fishery crisis, MSC seems to be better tuned to the commercial interests of Northern fishing industries and retailers, and to a soft, market-based version of environmentalism – in other words, to the creation of a market for 'sustainable fish' rather than 'sustainable fisheries'.

Keywords: standards and certification, Marine Stewardship Council, sustainable fish market

INTRODUCTION

In the last couple of decades, international organizations, activists, researchers and conservation groups have repeatedly highlighted the plight of over-exploitation of fish stocks around the world and the impact of intensive fishing efforts on the overall aquatic environment (Campling et al., 2012). To address these challenges, a wide array of fishery management systems have been devised under public authority (such as global conventions and national/local fisheries laws) and under 'softer' legal frameworks (such as the FAO Code of Conduct for Responsible Fisheries). In more recent years, however, due to the perceived failure of international and national law to control fishing behaviour, governance of fisheries has been increasingly carried out through voluntary codes of conduct and market-based instruments, including sustainability labels and related certification systems (Allison, 2001; Bonanno and Constance, 1996; Gardiner and Viswanathan, 2004; Parkes et al., 2009; Wessels et al., 2001). What is happening in capture fisheries broadly reflects the historical trajectory of regulation more generally, with a movement from being mainly governmental or inter-governmental in nature (from the 1950s to the 1970s) to taking more private and 'hybrid' forms ever since, including an increasing role for voluntary standards and certifications (see Ponte et al., 2011 for a more general discussion).

Examining sustainability labels and certifications in the capture fish industry is particularly important from a North-South perspective. Fish has become a globally-traded commodity in the past three decades. Annual export values increased from US$15 billion to over US$93 billion between 1980 and

2008 (FAO, 2010), and almost half of these exports currently originate from the global South. Although aquaculture production has grown much faster than capture fish production, the latter still represents over 60 per cent of total fish production by volume (Ibid.). Capture fisheries provide key inputs to aquaculture and thus their sustainability is directly relevant to the sustainability of aquaculture production as well (Goldburg, 2008). In parallel to the emergence of a global market for fish, a market for 'sustainable fish' has also been established, mostly as a result of the creation of the Marine Stewardship Council (MSC) certification system (see Ponte, 2008; Guldbrandsen 2009; Hallström and Boström, 2010; Auld and Guldbrandsen, 2010; Gale and Haward, 2011). But while in aquaculture (and in many other agro-food sectors) a myriad of sustainability certifications have emerged (Corsin et al., 2007; WWF, 2007; Lebel et al., 2008; Parkes et al., 2009), in capture fisheries MSC has managed to retain a quasi-monopoly.

MSC has grown exponentially both in terms of number of fisheries certified and uptake in consumer markets. It has succeeded in bringing 'sustainable fish' into the mainstream by managing supply, demand and (to some extent) civic concerns. In other words, MSC has secured the certification of a large number of fisheries – addressing supply concerns. It has promoted market demand for sustainable fish by having large retailers, distributors, restaurant chains and foodservice companies carry MSC certified products – addressing demand concerns. And, to a lesser degree, it has managed to portray itself as promoting 'strict and serious' forms of fishery and ecosystem management (addressing civic concerns). It did so through a focus on technical procedures, a relatively top-down governance structure and the dominance of technical fishery, chain of custody and certification knowledge and expertise over other kinds. But because of its only partial success in managing civic concerns, MSC still faces

significant challenges – it has failed to certify a significant amount of Southern fisheries and does not cover socio-economic aspects of sustainability.

In the next section, I will briefly lay out the main features of the literature on standards and certification and the overall analytical approach used in this article. In the following sections, I will examine selected processes and outcomes of MSC certification: how the market for sustainable fish has emerged and what its main characteristics are; the development of the MSC governance structure; how MSC has managed demand and supply concerns in the market for sustainability standards for capture fisheries; and how it has managed civic concerns, such as documenting the environmental outcomes of certification and its record in certifying Southern fisheries. In the final section, I will provide some conclusions and a future research agenda.

ANALYTICAL APPROACH

Standards as instruments of governance have been approached in the literature from a variety of perspectives. *Institutionalist* perspectives have focused much of their effort in identifying sources of private authority and specifically how standards and the organizations that drive them achieve legitimacy. One of the main tenets of these studies is that standard setting organizations build rule-making authority and legitimacy through expertise so that standards can actually be seen as 'expert knowledge stored in the form of rules' (Jacobsson, 2000, p. 41; see also Brunnson and Jacobsson, 2000; Hallström, 2004). From this perspective, expertise is a kind of knowledge that claims to be correct, embodies practical advice, is produced by specialists and can be challenged only by specialists (Jacobsson, 2000). It covers both content and procedures (*Ibid.,* p. 48). Experts from this point of view are not influential because they can present arguments that persuade, but because they can avoid

argument by virtue of having expertise (Hüllse and Kerwer, 2007). Focus in this literature has been mainly on *what* knowledge is used to create standards and provide them with legitimacy, but more recent contributions have also attempted to understand *how* that happens (Hallström and Boström, 2010).

Other approaches have focused on the discursive, ideational and normative dimensions of standards. *Actor-network* perspectives have been particularly engaged in explaining how materials and techniques are deployed by actors (scientists, managers and so on) to enroll other actors, extend the range of application of standards beyond localized spaces and to apply, adapt and 'translate' standards locally (Timmermans and Berg, 1997; Lampland and Star, 2009; Higgins and Larner, 2010; Loconto and Bush, 2010). From this perspective, standards entail 'acting at a distance' (Latour, 1987) and are one of the ways of governing through the application of calculative devices (Callon, 1986). *Convention theory* has also been used in standards work to understand the 'normative work' behind standard formation and management (Ponte and Gibbon, 2005). *Governmentality* approaches have seen standards as technologies for the governing of conduct (Gibbon and Ponte, 2008; Vestergaard, 2009; Higgins and Larner, 2010), where standards construct fields of visibility that reconstitute the social domains of the knowable and governable. From a governmentality perspective, standards aspire at shaping conduct and are underpinned by rationalities for the organization and governing of social life (Miller and O'Leary, 1987; Henman and Dean, 2010).

In this article, I approach the issue of sustainability certification from a political economy of standards perspective. Contributions within *political economy* have examined standards from a variety of angles within a materialist field: in terms of their content, coverage and proliferation; their governance, adoption and issues related to conformity; the costs and benefits of compliance; the role of capital and

corporations in the development of standards; the dynamics of negotiation, content setting, certification procedures and accreditation; and how standards arise from (or shape) value chain restructuring, inclusion/exclusion dynamics and welfare outcomes. Much attention has also been placed on the development outcomes in the South and on weaker players (see a recent review in Gibbon et al., 2010).

For lack of space, my approach necessarily entails focusing on some political economy aspects rather than others. Therefore, less emphasis is placed here on the effects of certification in shaping fishery and fish processing industries as a whole, for example on whether MSC certification is leading to higher industry concentration, or to advantages for specific companies, or to more 'buyer power' in fish value chains. Other studies on MSC have already chronicled in detail how certification can be a site of struggle between different interest groups at a national or regional level, although more work is still needed in this realm. For example, in this issue Foley (2012) shows how different fish processing 'clients' used MSC certification processes to improve (or re-gain) their access to shrimp resources in Canada. Likewise, Gale and Haward (2011) examined the different dynamics of state support for MSC certification in Australia, Canada and the UK. In previous work, I showed how MSC certification of hake was used in South Africa to counter-balance threats of redistribution of quotas within the industry (Ponte, 2008).

Rather than providing an overall analysis of how certifications shape *the* political economy of fisheries, I examine how specific (and technical) processes of governance and certification lead to material outcomes – such as the shape and dynamics of: the sustainable fish market, environmental impacts of fisheries, and possible discrimination between different groups of actors and countries. This entails a shift of focus from the political economy of fisheries and fish trade towards identifying and analysing how certification initiatives address supply, demand and civic concerns that arise in the *market for*

sustainability standards and labels (see also, inter alia, Mutersbaugh, 2005; Macdonald, 2007; Raynolds et al., 2007).

The market for sustainability standards is characterized by three main concerns: over securing enough supplies, over finding a market for certified products, and over securing support from, and alliances with, influential NGOs. A certification initiative may compete with others in convincing suppliers to become certified under its own scheme instead of another, for example, for a fishery to go through MSC certification instead of Friend of the Sea certification (*management of supply concerns*). This entails developing standards that are accessible for producers to comply with, and/or the ability to enrol external support – from bilateral or multilateral development agencies, international traders or importers, NGOs, business associations, governments – to support producer conformity to such standards.

A certification initiative may also compete in convincing buyers (retailers and branded agro-food processors) to distribute products carrying its own certification label instead of another (for example, convincing a retailer to carry Fairtrade certified coffee instead of Rainforest Alliance-certified coffee) (*management of demand concerns*). This kind of concern is to some extent related to supply concerns, on the basis of costs of adaptation, compliance and certification that producers have to face and their impact on the final price of the product. It also relates to the potential cost of switching supply sources and product lines and to the minimization of reputational risk, credibility of claims, and visibility. Certification options with lower costs of adaptation, compliance and certification (or options with lower switching costs) may indeed be attractive to retailers and branded processors because they allow them to sell an extra quality trait (e.g. 'environmentally sustainable') at low or no extra cost to the consumer. At the same time, retailers and branded processors are aware of the reputational risk (and

related potential losses) they may incur if such a quality trait is based on claims that are found to be unreliable or false. Also, more demanding standards might establish a high level of recognition and visibility among consumers (e.g. Fairtrade) and therefore may be preferred by retailers and branded processors on such bases.

Finally, sustainability initiatives usually seek approval from, and form alliances with, influential NGOs (*management of civic concerns).* To enrol an influential NGOs such as WWF, a certification initiative might claim that its standard is more serious and/or effective in attempting to address one or a combination of sustainability issues than another. However, depending on what kind of NGO it wants to attract, a certification initiative can also promote itself as more pragmatic or business-friendly than another. If a certification initiative achieves (or has potential to achieve) meaningful commercial success, it will claim to have a wider potential impact on social and/or environmental issues than another initiative which may have higher standards but a less widespread commercial uptake – on account of the fact that more (or bigger) actors comply with it. These claims help sustainability initiatives win support from influential NGOs: NGO support is important not only politically but also in terms of the possible commercial advantages of placing the NGO logo alongside its sustainability label on the final product (it is widely known, for example, that placing the WWF panda logo on a product helps increases sales). In sum, analyzing the ways these supply, demand and civic concerns are managed helps us to understand the political economy of sustainability certification and the dynamics of market creation. In the rest of this article, I apply this framework to the case study of MSC.

THE MAKING OF A MARKET FOR 'SUSTAINABLE FISH'

The Marine Stewardship Council (MSC) is the dominant sustainability certification system in capture fisheries. In little over a decade, MSC has single-handedly created a market for 'sustainable fish' and has brought it into the mainstream. Thus, an analysis of its features, its governance system and its management of supply, demand and civic concerns is essential for understanding the evolution of sustainability certification in capture fisheries more generally. But in order to better understand the approach MSC took when it started its operations in the second half of the 1990s, we first need to understand the kinds of influence and tools of action that conservation NGOs were exercising at that time. While ocean conservation has been a key preoccupation in some NGOs (especially Greenpeace) for a long time, it was only in the 1990s that mainstream international conservation groups, such as the US-based National Audubon Society and the World Wide Fund for Nature (WWF), began to focus attention on the sustainability of capture fisheries – with funding mostly from the Packard Foundation and the Pew Charitable Trusts. Previously, conservation groups had mostly paid attention to the terrestrial environment and to the well-being of marine mammals rather than fish (Sutton and Wimpee, 2008), for example through the development of the 'dolphin-friendly' tuna label in the late 1980s (Bonanno and Constance, 1996). Conservation groups faced fishery industries that had a stronghold over US and international fishery management. They were well aware that governments and international organizations had overseen the collapse of cod fisheries in New England and Canada and the depletion of other important marine stock such as Atlantic bluefin tuna (Longo and Clark, 2012). As a result, in the mid-1990s they started to turn towards market-based mechanisms to address these problems. This took place first via campaigns against consumption of specific species (such as SeaWeb's 1997-2000 'Give swordfish a break' campaign) and then via the development of certifications and ecolabels, sustainable sourcing guidelines and advisory lists for consumers (Boots, 2008).

As part of this process, in 1995 WWF began discussions with Unilever on how to tackle sustainability in capture fisheries. WWF's entry point was one of conservation. Unilever was at that time the world's largest frozen fish buyer and processor and was concerned about not being able to source fish in the future for its dominant frozen food business. In 1996, the director general of WWF and Unilever's chairman agreed to collaborate in the creation of a new organization called Marine Stewardship Council (MSC), partially inspired by the Forest Stewardship Council (FSC) that had been established in 1993 also under the influence of WWF. Assisted by a giant public relations firm, WWF and Unilever took the idea on a tour of eight workshops. They convened two drafting workshops in 1996 and 1997, whose participants included the 'Who's Who of fisheries science and management' (Sutton and Wimpee, 2008: 408; see also Guldbrandsen 2009; Auld and Guldbrandsen, 2010; Hallström and Boström, 2010; Gale and Haward, 2011). MSC was formally established as an NGO in London in 1997 under the chairmanship of John Gummer, a Conservative MP and former UK fisheries and environmental minister. In addition to developing its own Sustainable Fish Initiative, at the MSC launch, Unilever committed to buy fish only from sustainable sources by the year 2005. In 1999, MSC severed its ties to WWF and Unilever, and in 2000 it certified its first two fisheries as 'sustainable'.

Certification of sustainable fisheries (which is independent from 'chain of custody' certification; see Foley 2012) is granted against the MSC 'Principles and Criteria for Sustainable Fishing'. Submission to an MSC assessment is voluntary, and assessment is carried out by an MSC-accredited third-party certification body. The MSC Standard is based on three principles, which are elaborated within a number of criteria:

- *The status of the target fish stock:* 'A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those

populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery' (MSC, 2010c: 5).

- *Impact of the fishery on the ecosystem:* 'Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem … on which the fishery depends' *(Ibid.)*.
- *Performance of the fishery management system:* 'The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable' (*Ibid.*: 6).

Alongside the development of the MSC standard and certification procedures, several actors were actively mainstreaming and popularizing sustainable fish by promoting certification and creating 'sustainable buying guides' and advisory lists for consumers, especially in the 2000s (see below). In 2000, Ahold USA (part of the large multinational retailer Royal Ahold) partnered with the New England Aquarium to improve the sustainability of the fish products it retails. At more or less the same time, the Monterey Bay Aquarium's 'Seafood Watch Pocket Guides', originally developed for its on-site café and event-catering department, became a hit in the US because they offered individuals species-specific recommendations for how to be conscientious fish consumers. This happened despite the problem that advisory lists do not tend to differentiate between poorly managed stocks in some locations and well managed stocks in other locations.

Such success led to the rapid expansion of sustainable seafood purchasing campaigns. The Monterey Bay Aquarium launched the Seafood Watch programme, which later targeted restaurateurs, foodservice and other seafood purchasing units in large businesses as well. In 2004, feeding demand for more

localized advisory lists, Forest and Bird (a New Zealand conservation group) developed its own 'Best Fish Guide', while a 'Sustainable Seafood Guide' was also developed in Australia. Other advisory lists have also been published by WWF, Greenpeace and the Sustainable Fish Partnership (see various contributions in Ward and Phillips, 2008). More or less all advisory lists use a traffic light system (of variable quality) to allocate species in 'good', 'not so good' and 'bad' categories (Leadbitter, 2008; Parkes et al., 2009) as a way to encourage large and small seafood buyers alike to migrate towards 'good', 'sustainable' seafood options.

But perhaps the most important event of the decade was Wal-Mart's announcement in 2006 (following negotiations with Conservation International, WWF and MSC) that it was adopting a fish sustainability policy, seeking to source only MSC certified fresh and frozen products by 2011. This created a domino effect, with large food service and food distribution companies (such as the Compass Gourp and Sysco) making similar (but less far-reaching) announcements within a few months of Wal-Mart's (Sutton and Wimpee 2008). Sustainable fish had arrived at the mainstream table.

GOVERNANCE STRUCTURE

One of the factors that allowed MSC to grow so quickly in the market for sustainability standards (see details in next section) has been the development of a specific governance structure. Even though MSC had been fashioned after the Forest Stewardship Council (FSC), the latter is an open-member organization, while the MSC structure is significantly different and more corporate. The Forest Stewardship Council is governed by a General Assembly, where voting power is divided equally between Northern and Southern countries (Hallström and Boström, 2010). The General Assembly of the Forest Stewardship Council itself elects the Board of Directors that is accountable to the members of the organization. MSC was established as a foundation, but evolved into a multi-stakeholder

organization. Its managerial structure was designed to insulate the Board of Trustees (whose members are nominated, not elected) from the political influence of civil society actors (Gale and Haward, 2011; Hallström and Boström, 2010). Gale and Haward (2011) argue that WWF, having learnt from the Forest Stewardship Council experience, decided to promote a less inclusive and more efficient governance structure for MSC that could keep up with a fast-moving business environment.

In 2000, MSC revised its governance structure. Alongside the Board of Trustees, its executive decision-making body, two groups reporting to it were created – the Technical Advisory Board and the Stakeholder Council, with the former being the most influential one (see Hallström and Boström, 2010). This way, MSC moved towards a governance structure that is now more common among multi-stakeholder initiatives (usually including a board, one or more technical committees and a stakeholder council), but without altering its top-down nature (the Board of Trustees continues to be unelected and is not accountable to the Stakeholder Council) and by maintaining the predominance of fishery management, marketing, processing and chain of custody/logistics expertise over other kinds. As highlighted by Auld and Guldbrandsen (2010: 98), MSC also uses 'transparency and stakeholder consultation instrumentally, informing stakeholders of its activities and drawing on their expertise when needed to make fisheries assessments credible'. This instrumental use of *procedural* transparency is coupled to selective use of *outcome* transparency – while much information on assessment and re-assessment processes is posted on the MSC website, far less information is available on the actual impact of MSC certification on sustainability (see below).

As of July 2011, the Technical Advisory Board (which provides advice on technical, scientific and quasi-judicial issues to the Board of Trustees) included 13 members: more than half of these (seven) are fishery assessment and/or management scientists; the remaining are experts on chain of custody,

certification and fish processing – no economists or other social scientists are members. The Stakeholder Council represents specific interests grouped under two categories represented by 34 individuals. The 'public interest' category has 16 members, many from environmental groups, but also including a few donor representatives, academics and policy makers. The 'commercial and socio-economic category' includes 18 members, all from companies and industry associations (thus representing commercial interests, not broader 'socio-economic' concerns). Until 2010, there was also a third category, 'developing world' which has now been eliminated (its four members seem to have been moved to the 'public interest' category). The dominance of fishery management scientists, of marketing, processing, chain of custody and logistics experts, and of Northern-interest representatives both in the formative years and in the configuration and consolidation of governance structures has allowed MSC to establish a Northern agenda built upon an internal balance between moderate environmentalism and techno-commercial imperatives, at the cost of socio-economic and labour issues and of Southern interests.

Its governance structure enabled MSC to respond quickly to supply and demand concerns in the market for sustainability certification in capture fisheries, and thus dramatically restricted the scope for (and ability of) other labels to move into this market. On the one hand, this triggered commercial success. On the other hand, as I suggest later in the article, new openings for possible competitors may be emerging due to MSC's failure to address civic concerns, especially in terms of procuring certified supplies from Southern fisheries. In the next section, I will focus on supply and demand concerns. In the following section, I will examine civic concerns.

SUPPLY AND DEMAND CONCERNS

In this section, I examine how supply and demand concerns in the market for standards shaped the sustainable fish market. Despite the development of other seafood ecolabels, MSC remains by far the dominant player in this field, giving it a quasi-monopoly both in the supply market (in terms of number and coverage of certified fisheries) and in the demand market (market share among fishery ecolabels used by retailers and branded processors). Other labels and certifications are either species-specific and/or location-specific (e.g. the Australian Southern Rocklobster Clean Green Program, the Salmon Safe label, the Flipper Seal of Approval for tuna, the Marine Ecolabel Japan), or relate mainly to aquaculture (Global Aquaculture Alliance, GlobalGAP, various Aquaculture Dialogues, various organic labels). The only other existing label that includes capture fisheries which is starting to create competitive pressure on MSC is 'Friend of the Sea' (FOS).[1]

At the time of its establishment, MSC did not have any substantial supply competitor that certified a wide range of sustainable capture fisheries. Yet, given the time- and resource-consuming certification process, in its first years of operation it certified only a few fisheries – and only two of major commercial significance (Alaska salmon, in 2000; and New Zealand hoki in 2001). By 2004, MSC estimated that certified and under-assessment fisheries represented four per cent of global wild edible supply of fish. Fully certified fisheries, however, were less than one per cent of global supply (Ponte, 2008). At that time, the London-based MSC secretariat employed under a dozen people. By 2006, it

[1] Established in Italy in 2005, the Friend of the Sea (FOS) certification system has a broader reach than MSC in terms of the types of products it certifies (marine capture, aquaculture, fish meal, fish oil and Omega-3 fats). It established a presence first in Italy and later in Switzerland and Spain, with some products sold in other countries. Friend of the Sea has certified over 30 fisheries and about 75 aquaculture operations, including a number of fisheries in developing countries. FOS includes provisions for minimum wages, respect of International Labour Organization conventions, access to medical care for employees (when possible) and recommends (rather than requiring) compliance with SA8000, a social and labour certification system (Ponte et al., 2011). Naturland has also developed a certification system for sustainable fisheries and is working on three pilot projects on capture fisheries in Tanzania (see http://www.naturland.de/naturland_fish.html).

had certified 15 fisheries, including two new important ones (South African hake, in 2004; and Bering Sea/Aleutian Islands pollock, in 2005). There were also 21 fisheries undergoing first assessment and 'dozens more in the confidential pre-assessment stage' (MSC, 2006).

In terms of demand competition, MSC-certified products faced no competition in the market at that time, but had significant commercial presence at the retail level only in the UK, Switzerland, and Germany – with some presence in the US, France and other European countries (Ponte, 2008). According to MSC, 223 labelled products were marketed in 23 countries worldwide in 2006. Eighty-nine per cent of these products contained Alaskan salmon or New Zealand hoki. The MSC logo was used by 12 European retail chains under their own private label on a total of over 70 products. Two-thirds of these products were found in two Swiss retail chains (*Ibid.*)

The situation as of mid-2011 has changed dramatically. A much expanded MSC head office in London with over 50 staff members is supported by two regional offices in the US and Australia, plus local offices in France, Germany, Japan, the Netherlands, Scotland, South Africa, Spain and Sweden. Supply coverage has increased to more than 100 certified fisheries, with as many undergoing assessment (see www.msc.org) and another 40-50 under confidential pre-assessment (MSC, 2011). According to the MSC 2009/10 report (*Ibid*.), certified fisheries and fisheries under assessment supply over seven million metric tons of fish, representing 12 per cent of the world's total wild harvest for human consumption.

On the demand side, more than 10,000 products now bear the MSC label in more than 70 countries, for an estimated retail value of USD 2.2 billion (MSC, 2011), an increase of over 70 per cent over the previous year. At the retail level, in addition to early adopters such as Sainsbury in the UK, Whole

Foods in the US, and Migros and Coop in Switzerland, the most important developments have been commitments of a various nature by Wal-Mart, Carrefour, Target, the Dutch Retail Association, Marks & Spencer, Aldi, Lidl and Metro. MSC fish products are increasingly used in foodservice as well, including by Sodexo (the leading foodservice provider in North America and a major player elsewhere) and a small number of restaurant chains (MSC, 2010a).

One of the factors behind the recent growth in the number of MSC certifications has been the development of a Fishery Assessment Methodology (FAM) under a programme called 'Quality and Consistency'. This came as a reaction to complaints by fishery operators on inconsistency in the application of its standard (Gilmore, 2008). The FAM overall has not altered the MSC standard per se, but attempted to simplify the assessment structure, minimize variability of application of the standard and streamline the fishery assessment process. Fisheries using FAM have cut down their assessment period and are said to incur lower costs of certification (MSC, 2010b).[2] This is a key way in which MSC has been able to solve supply concerns and is reflected in the recent and phenomenal growth in the number of certifications – out of 97 certifications documented as of July 2011, 58 had taken place in the previous two years.

By focusing on the management of supply and demand concerns, MSC played a key role in creating and shaping a market for 'sustainable fish'. It facilitated a faster certification of many fisheries and enrolled key branded processors and retailers to make sure that fish bearing the MSC label reach an

[2] In the process of developing the new FAM, MSC convened expert panel workshops to clarify its sustainability standard and to refine and standardize the operational interpretations for performance indicators and scoring guideposts. The FAM was made available for use in July 2008 and in revised form in July 2009. Before the introduction of FAM, certifiers were required to define how the specific characteristics of a fishery would be assessed against the MSC standard. They were requested to define performance indicators and scoring guideposts, which together comprised the 'assessment tree'. MSC decided that such an approach left too much leeway on how the standard was interpreted. The FAM now includes a default 'assessment tree' with standardized performance indicators and scoring guideposts. The number of indicators was trimmed from 70 to 31.

increasing proportion of consumers. However, as I show in the next section, in the haste of securing commercial success, MSC did not pay enough attention to managing civic concerns.

CIVIC CONCERNS

In this section, I analyze how MSC has managed civic concerns in the market for sustainability standards for capture fisheries. I will examine three groups of civic concerns: those related to environmental impacts; those related to the coverage of socio-economic aspects; and those related to certification of fisheries in the South.

Environmental impacts

MSC's initial approach in managing the environmental component of civic concerns relied mainly on having WWF as a co-founder. However, this did not translate automatically in widespread acceptance of its environmental credentials. During and soon after the establishment of MSC, more aggressive environmental NGOs started to challenge its civic profile. In the early 2000s, several conservation groups argued that MSC-certified fisheries were not sustainably managed in reality (Constance and Bonanno, 2000; Ponte, 2008). This led to two major evaluations of MSC in 2004. One, the 'Wildhaven report' was funded by three conservation foundations (including the Pew Trusts which focuses on lobbying and litigation) and was sharply critical of the market-based approach taken by MSC. The other, the 'Bridgespan Group' report, partly funded by the Packard Foundation, was less critical of MSC and focused on the need to further improve its governance and administration (Gilmore, 2008).

As a result of pressure from civic organizations, MSC also commissioned a study (Agnew et al., 2006) examining 10 MSC-certified fisheries, all of which had been subject to at least one post-certification

audit. The 2006 study examined 62 certification conditions to assess whether they could ultimately lead to environmental benefits. The study identified eight instances of 'no gain' (there was no category for 'deterioration') and 89 environmental gains. However, these gains are of very different nature: 29 were 'institutional gains' that could lead to environmental benefits (thus, these are hypothetical, or conditional, gains); and the same can be said of the 27 instances of 'research gains'. The 17 'operational action' gains are activity in the fishery (such as new regulations) that are expected to lead to environmental gains, but for which there is no automatic link. The most desirable gains, 'operational result' gains, amounted to 16 instances—within these 16 instances, only eight (the same number of 'no gain' cases) were judged to be most likely stimulated (or partially stimulated) by the certification process (Agnew et al., 2006).

The authors of this study also highlighted some lessons learnt, two of which are particularly interesting: (1) that the biggest gains seem to arise in areas where conditions for certification were attached—thus one could argue for stricter certification processes; and (2) that 'difficult fisheries' should be encouraged to apply for MSC certification, because they are the ones where certification is likely to create the biggest environmental gains. This created a dilemma for MSC: on the one hand, certification is deemed to be a good pedagogical tool for all fisheries, and the worse the fishery, the higher the potential gains. On the other hand, placing stricter certification conditions to lead to higher environmental gains makes it more difficult to be certified and thus decreases the incentive for all fisheries to apply (and especially 'difficult fisheries'). If fisheries do not apply, the market coverage of MSC-labelled products can not expand further. This dilemma, however, was partly solved with the application of the Fishery Assessment Methodology (see above), which according to MSC streamlines procedures (leading to a quicker and cheaper certification process) without 'lowering the standard'.

On occasion of its 10th anniversary, MSC published a study that provided anecdotal evidence of positive sustainability impacts (MSC, 2009). The study was based on interviews with industry operators who had gone through MSC certification, thus did not constitute a proper assessment. A more troublesome picture that further dented MSC's environmental profile emerged in a recent independent study, funded by the Packard Foundation and assessing one of the first and most controversial MSC-certified fisheries, New Zealand hoki (Norden et al, 2011). The study found: (1) little or no indication that MSC certification had an impact on bycatch rates of non-target fish species and of fur seals and seabirds; (2) no impact of certification on catch rates (which had declined already before certification); (3) no evidence that catch limits were set more conservatively as a result of certification; (4) conflict of interest for certifiers who are contracted to carry out further audits on the same fishery; and (5) an approach to addressing corrective actions that is based on examining plans rather than actions (Norden et al., 2011). The report also highlighted increased stakeholder engagement which, however, did not result in the industry working together to foster environmental benefits. A more positive aspect reported was evidence that suppliers are receiving a price premium for certified fish (*Ibid.*). Overall, this indicates positive spinoffs in terms of economic incentives, marketing and industry cohesion but poor management of civic concerns related to the environmental impact record of MSC.

Socio-economic and labour issues

A second set of civic concerns relates to the coverage of socio-economic and labour issues in the MSC standard. Despite early pressure from civic organizations such as the International Collective in Support of Fishworkers (see Constance and Bonanno, 2000), MSC explicitly avoided including these aspects of fisheries in its standard because it would have complicated the certification process and slowed down its uptake. The result is that while the market for standards in aquaculture is rife with a

myriad of labels and initiatives (see recent reviews in Corsin et al., 2007; Parkes et al., 2009; Ponte et al., 2011), the socio-economic niche has remained almost empty in capture fisheries, with the exception of some labour and social provisions that have been included in the Friend of the Sea (FOS) and Naturland standards. The Fairtrade Labelling Organization (FLO) has not developed a standard for seafood yet, although its standards unit is developing one for shrimp.

Southern fisheries

A third set of civic concerns relates to the certification of Southern fisheries. I label them 'civic' concerns here because the pressure from civil society groups and critics of MSC in this realm has been based on the perceived unfairness of its record. However, this discussion has also direct relevance for supply and demand concerns as well.

Despite the increased number of certified fisheries and its commercial success, one area where progress has been slow in MSC has been the certification of fisheries in the global South. It is important to bear in mind that these fisheries represent roughly half of global fish exports. Especially in the early years of operation, MSC did not pay enough attention to the specific features of developing country fisheries (especially artisanal ones) and their special needs when it comes to sustainability certification. Representatives from developing countries were only invited to one consultative meeting in London in 1996. Out of the eight workshops that were carried out to present the initiative to various fisheries, only one took place in the global South (in South Africa – an upper-middle income country where several large-scale industrial fisheries operate).

As a result, in the late 1990s MSC drew a spate of criticism related to: the perceived lack of consultation with fishers in general – and developing country representatives in particular; the financial

and human resource costs, and need for scientific evidence and government support, that achieving certification would entail in developing countries; and the complexity of the systems required for meeting MSC fishery management demands, especially for small-scale fisheries (Constance and Bonanno, 2000). MSC and other supporters of the initiative responded to such criticism by assuring that workshops and consultations were being carried out around the world. MSC also argued that its certification system was being field-tested in various settings, including small-scale fisheries and fisheries in the developing world. It assured that because the scheme was voluntary, it would not be imposed on anyone, and that it would be 'market-neutral' and non-discriminatory. Finally, MSC claimed that its standard was not going to work against the interests of small-scale fishers because it would promote, among other things, socially-responsible fishing (Ponte, 2008).

Yet, by 2006 only three fisheries had been certified in developing countries: Mexico Baja California Rock Lobster, South African hake, and Patagonian scallops (Argentina). Additionally, two fisheries were undergoing certification: Chilean hake and Gulf of California sardine (Mexico). All five fisheries are located in upper-middle income countries and most are large-scale industrial fisheries. As of July 2011, there were still only three certified developing country fisheries: South African hake, Patagonian scallops and the very small Vietnam Ben Tre clam fishery, the first and only fishery in a lower-middle-income country. The list of developing country fisheries undergoing certification included two fisheries in Argentina, one in Argentina and Uruguay, one in Chile, three in Mexico, one in Suriname, one in Fiji, two in the Maldives and the PNA Western and Central Pacific skipjack tuna fishery (see www.msc.org).[3] While this list has grown in the past few years, the two Maldives fisheries are the only fisheries in a lower-middle income country in the process of certification. No low-income country is

[3] Covering the Exclusive Economic Zones of Papua New Guinea, Kiribati, FS Micronesia, Marshall Islands, Nauru, Palau, Solomon Islands and Tuvalu.

currently certified or undergoing certification. As noted above, 60 per cent of all MSC certifications have taken place between July 2009 and June 2011. No developing country fishery was certified in this period, and much of this growth is attributable to Canadian and Nordic fisheries. This is particularly surprising as Nordic fisheries and their governments had fought against the establishment and growth of MSC in the 1990s and early 2000s (Guldbrandsen, 2009). Almost all early adopter fisheries (those certified in 2000-2005) have gone or have started going through the re-certification process.

In the mid-2000s, MSC did start to recognize that its standard and certification procedures were not geared towards the realities of developing country fisheries, especially small-scale and data-deficient ones. A special programme (MSC Developing World Fisheries Programme) was set up to improve the awareness of MSC in developing countries and to develop guidelines for the assessment of these fisheries. Under this programme, MSC also started an initiative called 'Access for all fisheries' which included the development of a 'Risk-based Framework' (RBF). The Risk-based Framework aims at developing guidance for certifiers on the use of 'unorthodox' information on fisheries, such as traditional ecological knowledge.[4] While it is a step forward in allowing other forms of knowledge to inform the certification process, it is too early to assess whether it will provide the impetus for increasing the presence of developing country fisheries in MSC.

[4] The Risk-based Framework aims at using a 'risk-based' approach to qualitatively evaluate fisheries when 'scientific' sources of information are not available. In 2007, this led to the approval by the MSC Technical Advisory Board of the 'Guidelines for the assessment of small scale and data-deficient fisheries'. The guidelines were piloted in seven small-scale data-deficient fisheries, six of which are based in developing countries (one, Vietnam Ben Tre clam has been subsequently certified). Furthermore, the Risk-based Framework since mid-2009 has become part of the new 'Fisheries Assessment Methodology' described above. MSC documentation clearly claims that the environmental 'bar' has not been lowered with the introduction of Risk-based Framework (MSC, n.d.). The Risk-based Framework may be used to evaluate and score specified 'outcome' (not process) performance indicators within the MSC default assessment tree when data-deficiency is encountered. The RBF includes a set of methods for assessing the environmental risk arising from activities associated with the fishery in assessment.

In sum, civic pressure has led MSC to start evaluating the environmental impact of its certification, with unimpressive results so far.[5] Labour and socio-economic issues have been left out of the MSC standard altogether. And despite a decade of complaints by civil society groups and critics, MSC is still mostly certifying Northern fisheries. These three sets of civic concerns are unlikely to be tackled by MSC given its governance structure unless there is further civic pressure or a compelling supply and demand concern for MSC to address them.

CONCLUSION

Market-based instruments of fishery governance have been promoted in the past 10-15 years on the basis of two widespread expectations: that complying with standards and guidelines embedded in certification systems will lead to environmental benefits; and that sustainability certifications will not discriminate against specific social groups and countries or regions because they are 'market-based'. In this article, I examined whether these assumptions hold through the analysis of the Marine Stewardship Council (MSC) label for capture fisheries.

MSC has been successful in becoming the main reference in the market for sustainability certifications in capture fisheries. It did so by enrolling large fisheries in its programme (addressing supply concerns)

[5] To be more precise, MSC has started to assess the environmental impacts of certification not only because of pressure from more radical conservation groups, but also because it is a member of ISEAL. ISEAL (International Social and Environmental Labeling Alliance) is an association whose members are social and environmental standard-setting and accreditation organizations. In addition to developing a code of conduct on standard setting, ISEAL has just finalized a 'Code of Good Conduct for Assessing the Impacts of Social and Environmental Standards' to which members need to comply. The code provides guidance to managers of standard organizations on how to set up a monitoring and evaluation process to assess whether they achieve their goals. Yet, all the code on impacts demands is for managers to seek *improvements* in the effectiveness of their standard to achieve their goals and to improve the evaluation system itself. The code does not suggest within what timeframe goals and outcomes need to be reconciled, nor does it indicate what size gap between expectations and reality is acceptable. It is not clear what would happen if a standard organization revises its goals downwards as a result of lack of achievement.

and by working aggressively with major retailers and catering business to find a consumption outlet for 'sustainable fish' (addressing demand concerns). MSC's attempts to address civic concerns have focused mainly on procedural improvements that have not yet led to documenting positive impacts on the environment. MSC is still excluding labour and socio-economic conditions of production from its standard. And its enrolment of developing country fisheries lags behind – only few Southern fisheries, and only one in a lower-middle-income country, have been certified so far. No fisheries in low-income countries have been certified so far or are undergoing certification.

This has resulted in a peculiar configuration of the sustainable fish market. While it is not surprising that consumer markets for sustainable fish are still mainly located in the global North, a large majority of MSC-certified fish is captured in Northern fisheries, despite the fact that around half of total global exports of fish originate in the global South. This article shows that, while the market for fish in general has indeed become more global in the past three decades, and sustainability is indeed moving into the mainstream, the market for certified sustainable fish remains a Northern affair. By not being able to seriously address the issue of Southern exclusion, however, MSC is limiting its long-term prospects of further expansion and is exposing itself to potential competition from other initiatives in the market for sustainability standards, such as the Friend of the Sea certification system. To the extent that such competition will address the current imbalance between Northern and Southern fisheries, this is a welcome development. As an institutional 'solution' to the global fishery crisis, MSC seems to be better tuned to the commercial interests of Northern fishing industries and retailers, and to a soft, market-based version of environmentalism – in other words the promotion of the idea of a 'sustainable fish market', than to the promotion of 'sustainable fisheries'.

These observations suggest that further critical work is needed on sustainability certifications in capture fisheries. First, far more information is needed on the actual environmental benefits of MSC certification. Second, an effort to monitor what happens to the few Southern fisheries that are undergoing formal assessment with MSC is also needed in the near future. Third, only anecdotal evidence is available on the possible conflicts of interest that auditors have when assessing or re-assessing MSC fisheries. Fourth, while research is available on the different dynamics of state support for MSC certification in different (Northern) countries (Gale and Haward, 2011), little is known in political economy terms on what state support means for 'fair' competition with other certified and non-certified fisheries. Fifth, further research is needed on the effects of sustainability certification in shaping fishery and fish processing industries and in changing the dynamics of power within fish value chains. Sixth, more detailed work should be carried out on the interplay of expert knowledge, the enrolment of specific epistemic communities, and the definition of 'stakeholder' – in order to explain exactly why and how MSC took the institutional and procedural features we observe today. Finally, no detailed research has been carried out so far on the main emerging competitor of MSC, the 'Friend of the Sea' (FOS) certification system, especially as it covers some social and labour issues and has certified numerous Southern fisheries.

My two final points relate to the putative 'specificity' of fisheries and fishery research and to the analytical framework developed in this article. In relation to the first point, too often the literature on fisheries is characterised by self-referential and narrowly technical features (Campling et al. 2012). There are indeed extra challenges in promoting the sustainability of highly mobile and difficult-to-assess fish stocks in comparison to, say, timber forests or cocoa trees. But comparative work is always useful in highlighting possible commonalities with what takes place in other industries. The field of

standards and certification can provide a useful venue to carry out such comparative work, yet much of it has so far eluded fisheries – with a few exceptions (Auld and Guldbrandsen, 2010; Ponte and Riisgaard, 2010; Gale and Haward, 2011). The need for further comparative work also applies to the analytical framework developed in this article. While dissecting different kinds of concerns (supply, demand and civic) in the market for sustainability certifications has made it possible to highlight some of MSC's strategic actions and responses in novel ways, these categories and related strategies need to be tested in other industries as well.

REFERENCES

Allison, E.H., 2001. 'Big Laws, Small Catches: Global Ocean Governance and the Fisheries Crisis'. *Journal of International Development*, 13: 933-950.

Agnew, D., C. Grieve, P. Orr, G. Parkes and N. Barker, 2006. 'Environmental Benefits Resulting from Certification against MSC's Principles and Criteria for Sustainable Fishing'. Marine Resources Assessment Group (MRAG) and MSC.

Auld, G. and L.H. Gulbrandsen, 2010. 'Transparency in Nonstate Certification: Consequences for Accountability and Legitimacy'. *Global Environmental Politics*, 10 (3): 97-119

Bonanno, A. and D. Constance, 1996. *Caught in the Net: The Global Tuna Industry, Environmentalism, and the State*. Lawrence: University Press of Kansas.

Boots, M., 2008. 'Advancing the Global Marketplace for Sustainable Seafood: The Seafood Choices Alliance'. In *Seafood Ecolabelling: Principles and Practice*, eds. T. Ward and B. Phillips, pp. 143-60. Oxford and Ames, IA: Wiley-Blackwell.

Brunsson, N. and B. Jacobsson, 2000. 'The Contemporary Expansion of Standardization'. In *A World of Standards, eds.* N. Brunsson, B. Jacobsson and associates, pp. 1-17. Oxford: Oxford University Press.

Callon, M., 1986. 'Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay'. In *Power, Action and Belief: A New Sociology of Knowledge?, ed.* J. Law. London: Routledge.

Constance, D. and A. Bonanno, 2000. 'Regulating the Global Fisheries: The World Wildlife Fund, Unilever, and the Marine Stewardship Council'. *Agriculture and Human Values,* 17: 125-139.

Corsin, F., S. Funge-Smith and J. Clausen, 2007. 'A Qualitative Assessment of Standards and Certification Schemes Applicable to Aquaculture in the Asia-Pacific Region'. Asia-Pacific Fishery Commission, FAO.

Food and Agriculture Organization (FAO), 2010. *The State of World Fisheries and Aquaculture 2010*. Rome: FAO.

Gale, F. and M. Haward, 2011. *Global Commodity Governance: State Responses to Sustainable Forest and Fisheries Certification*. Basingstoke and New York: Palgrave.

Gardiner, P.R. and K.K. Viswanathan 2004. 'Ecolabelling and Fisheries Management'. *WorldFish Center Studies and Reviews,* 27. Penang: WorldFish Center.

Gibbon, P. and S. Ponte, 2008. 'Global Value Chains: From Governance to Governmentality?' *Economy and Society*, 37 (3): 365–392.

Gibbon, P., S. Ponte and E. Lazaro (eds), 2010. *Global Agro-food Trade and Standards: Lessons for Africa*. Basingstoke and New York: Palgrave.

Gilmore, J., 2008. 'Case Study 3: MSC Certification of the Alaska Pollock Fishery. In *Seafood Ecolabelling: Principles and Practice*, eds. T. Ward and B. Phillips, pp. 269-286. Oxford and Ames, IA: Wiley-Blackwell.

Goldburg, R.J., 2008. 'Aquaculture, Trade and Fisheries Linkages: Unexpected Synergies'. *Globalizations,* 5 (2): 183-194.

Gulbrandsen, L.H., 2009. 'The Emergence and Effectiveness of the Marine Stewardship Council'. *Marine Policy*, 33 (4): 654-660.

Hallström, K. and M. Bostrom, 2010. *Transnational Multi-stakeholder Standardization: Organizing Fragile Non-state Authority.* Cheltenham and Northampton, MA: Edward Elgar.

Henman, P. and M. Dean, 2010. 'E-Government and the Production of Standardized Individuality. In *Calculating the Social: Standards and the reconfiguration of governing*, eds. V. Higgins and W. Larner, pp. 77-93. Basingstoke and New York: Palgrave.

Higgins, V. and W. Larner (eds.), 2010. *Calculating the Social: Standards and the reconfiguration of governing*. Basingstoke and New York: Palgrave.

Hüllse, R. and D. Kerwer, 2007. 'Global Standards in Action: Insights from Anti-money Laundering Legislation'. *Organization*, 14 (6): 625–642.

Jacobsson, B., 2000. 'Standardization and Expert Knowledge'. In A *World of Standards*, eds. N. Brunsson, B. Jacobsson and associates, pp. 40-49. Oxford: Oxford University Press.

Lampland, M. and S.L. Star (eds), 2009. *Standards and Their Stories: How Quantifying,Classifying, and Formalizing Practice Shape Everyday Life*. Ithaca and London: Cornell University Press.

Latour, B., 1987. *Science in Action: How to Follow Scientist and Engineers through Society*. Cambridge, MA: Harvard University Press.

Leadbitter, D., 2008. 'Market-based Mechanisms – Improving Fisheries Management?' In *Seafood Ecolabelling: Principles and Practice*, eds. T. Ward and B. Phillips, pp. 187-206. Oxford and Ames, IA: Wiley-Blackwell.

Lebel, L., P. Lebel, P. Garden, D.H. Giap, S. Khrutmuang and S. Nakayama, 2008. 'Places, Chains and Plates: Governing Transitions in the Shrimp Aquaculture Production-Consumption System'. *Globalizations,* 5 (2): 211-226.

Loconto, A. and L. Bush, 2010. 'Standards, Techno-economic Networks, and Playing Fields: Performing the Global Market Economy'. *Review of International Political Economy,* 17 (3): 507-536.

Macdonald, K., 2007. 'Globalising Justice within Coffee Supply Chains? Fair Trade, Starbucks and the Transformation of Supply Chain Governance'. *Third World Quarterly,* 28: 793-812.

Miller, P. and T. O'Leary, 1987. 'Accounting and the Construction of the Governable Person'. *Accounting, Organizations and Society*, 12: 235–265.

Marine Stewardship Council (MSC), n.d.. 'MSC Risk-Based Framework'. London: MSC. Available at www.msc.org/about-us/standards/methodologies/fam/msc-risk-based-framework last accessed July 2011.

Marine Stewardship Council (MSC), 2006. *Fish4Thought*, March. London: MSC.

Marine Stewardship Council (MSC), 2009. 'Net Benefits: The First Ten Years of MSc Certified Sustainable Fisheries'. London: MSC.

Marine Stewardship Council (MSC), 2010a. 'MSC: Commercial Commitment Growing Worldwide'. London: MSC.

Marine Stewardship Council (MSC), 2010b. *MSC Annual Report 2008/09*. London: MSC.

Marine Stewardship Council (MSC), 2010c. 'MSC Fishery Standard -- Principles and Criteria for Sustainable Fishing', version 1.1, May. London: MSC.

Marine Stewardship Council (MSC), 2011. *MSC Annual Report 2009/10*. London: MSC.

Mutersbaugh T., 2005. 'Fighting Standards with Standards: Harmonization, Rents, and Social Accountability in Certified Agrofood Networks'. *Environment and Planning A,* 37: 2033-51.

Norden, W., K. Athearn, D. McNaught, S. Larkin and M. Teisl, 2011. 'Assessing the Impact of MSC Certification on Management and conservation in the New Zealand Hoki and Orange Roughy fisheries'. Report to the David and Lucile Packard Foundation – Project # 2008-32492.

Parkes, G., S. Walmsley, T. Cambridge, R. Trumble, S. Clarke, D. Lamberts, D. Souter and S. White, 2009. 'Review of Sustainability Information Schemes. Final Report'. Prepared for the Fish Sustainability Information Group by MRAG, January.

Ponte, S., 2008. 'Greener than Thou: The Political Economy of Fish Ecolabeling and Its Local Manifestations in South Africa'. *World Development,* (36) 1: 159-175.

Ponte, S. and P. Gibbon, 2005. 'Quality Standards, Conventions and the Governance of Global Value Chains'. *Economy and Society,* 34 (1): 1–31.

Ponte, S., F. Corsin, N. Warring, K.S. Jespersen, and J. Young, 2011. 'Review of Aquaculture Certification Systems'. SEAT report, Sustaining Ethical Aquaculture Trade, Stirling.

Raynolds L.T., D. Murray and A. Heller, 2007. 'Regulating Sustainability in the Coffee Sector: A Comparative Analysis of Third-party Environmental and Social Certification Initiatives'. *Agriculture and Human Values,* 24: 147-63.

Sutton, M. and L. Wimpee, 2008. 'Towards Sustainable Seafood: The Evolution of a Conservation Movement'. In *Seafood Ecolabelling: Principles and Practice*, eds. T. Ward and B. Phillips, pp. 403-15. Oxford and Ames, IA: Wiley-Blackwell

Timmermans, S. and M. Berg, 1997. 'Standardization in Action: Achieving Local Universality through Medical Protocols'. *Social Studies of Science*, 27: 273–305.

Vestergaard, J., 2009. *Discipline in the Global Economy? International finance and the end of liberalism*. London and New York: Routledge.

Ward, T. and B. Phillips (eds), 2008. *Seafood Ecolabelling: Principles and Practice*. Oxford and Ames (IA): Wiley-Blackwell.

Wessells, C.R., K. Cochrane, C. Deere, P. Wallis and R. Willmann, 2001. 'Product Certification and Ecolabelling for Fisheries Sustainability'. *FAO Fisheries Technical Paper* 422. Rome: FAO.

World Wide Fund for Nature (WWF), 2007. 'Benchmarking Study: Certification Programmes for Aquaculture: Environmental Impacts, Social Issues and Animal Welfare'. WWF Switzerland and Norway.

www.msc.org

www.friendofthesea.org