Ecolabelling and seafood certification in equitable benefit sharing of Tuna fisheries

Peter Oosterveer[1]
Environmental Policy Group
Wageningen University
Wageningen
The Netherlands

1. Introduction

Official government-based regulation of fisheries is facing limits as the principle of national sovereignty prevents interference in other countries' waters, while multi-lateral initiatives have proven ineffective in assuring the sustainable management of fish stocks on the high seas at multiple occasions. As moreover direct governmental interventions in international fish trade are restricted by WTO-agreements, in recent years different non-governmental initiatives to promote sustainable fisheries have been introduced. Among these private initiatives various certification and labeling schemes (Oosterveer 2007/2008) take up a prominent position.

In general, environmental labeling dates back to the 1970s with the development of organic food certification and the inception of the Blue Angel environmental labeling program in Germany (Boström & Klintman 2008; Parkes et al. 2009; Rubik & Frankl 2005). At the United Nations Conference on Environment and Development (UNCED) in 1992, participants agreed on encouraging expansion of environmental labeling and by the early twenty-first century, numerous voluntary certification schemes had been set up by NGOs, governments and private companies to promote sustainability and environmental protection, including in fisheries (Roheim & Sutinen 2006). 'Dolphin safe tuna' was the first fish-product label, introduced in the US in 1990 to guarantee consumers that their tuna was not caught by setting on dolphins (Constance 2001). Currently several private sustainability labels have been introduced on capture fisheries (Accenture 2009). This paper will consider this growing phenomenon in market-based environmental governance and discuss its perspectives and limits for tuna management in the Coral Triangle.

2. Environmental labeling and fisheries

2.1 General background

Environmental labelling of fish is closely related to the increasing process of globalisation through which food is traded worldwide. Under the conditions of globalised provision national governments are not able to impose their domestic regulations on traded products without immediate repercussions on international (trade) relationships (Kastner & Pawsey 2002). Governments nowadays struggle to deal with the deterritorialised and decentred mobilities connected to the global flows of food, which forces authorities to share their regulatory roles with other social actors in global networks (Castells 2004). National governments trying to impose unilaterally strict regulations on their domestic fisheries or on imported fish products

[1] E-mail: peter.oosterveer@wur.nl

face severe problems in securing their market position and maintaining good trade relations. Governments have to engage in complex power-sharing and negotiated decision-making processes involving transnational and national political institutions, private companies and NGOs (Beck 2005; Konefal et al. 2005). In this context, 'soft' instruments such as private labels and certification schemes are increasingly preferred to 'hard' instruments like bans, moratoriums or other formal tools.[2] Whereas conventional regulations are the result of national governments establishing standards, legal arrangements and enforcement from a hierarchical position, innovative forms of governance involve private actors in standard-setting and monitoring roles through networks established at multiple levels and aiming at voluntary cooperation.

Internationally traded fish constitutes a global material flow which connects the places where fish is captured with the places where it is consumed via the multiple locations where it is processed, traded and transported. At each of these locations specific socio-technical, economic and political practices are performed displaying particular institutional dynamics. Each location has its own arrangement of actors, practices and institutions as visualized in Figure 1.

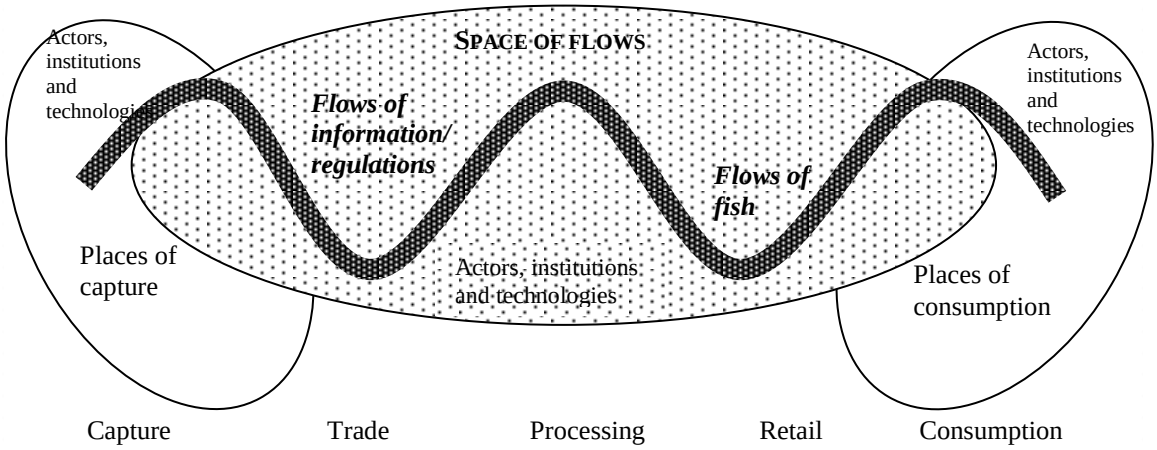

Figure 1: The 'space of flows' connecting production and consumption

The different arrangements of actors, practices and institutions constitute highly varying dynamics, but the demand for globalised provision necessitates some form of (in)formal coordination. Sustainable fish provision requires an additional dimension in addition to the basic, market-oriented coordination in order to connect the ecosystem-related dynamics and allow for increasing sustainability in the management of the fish stocks. Certification offers a coherent arrangement to promote sustainable fisheries throughout globalised supply chains.

The prevalence of eco-labeled seafood on the market is increasing, and a variety of labels is emerging in different countries. Certification confirms that a fishery operates according to a set of performance standards, so a label can be awarded to the products from that fishery provided the chain of custody is certified as well (Potts & Haward 2007). The range of certification schemes reflects the variety of incentives to which different initiators and users are responding (Parkes et al. 2009). For instance, fisheries, supermarkets and seafood brands may seek a competitive

[2] The ecolabel index (http://www.ecolabelindex.com/ecolabels/ visited 10 August 2010) counts 328 different ecolabels, of which they categorized 12 under fish/fisheries.

advantage on existing markets, increased access to otherwise difficult markets, or increased prices and wider consumer acceptability. Governments may consider developing standards a means of promoting greater responsibility in their national fishing industry as part of a broader environmental agenda. Finally, environmental NGOs view the provision of information on the sustainability characteristics of a particular fish both as an important service to their constituents to support informed consumer choices, and a means of motivating the fishing industry to adopt more environmentally-sound practices. NGOs are mostly involved in third party certification[3] and aim at creating a global label.

Hence, an eco-label is a voluntary product label conveying environmental information to consumers thereby seeking to create a market-based incentive for better management of fisheries (FAO 2005). The fish product label conveys information without the buyer necessarily having to comprehend the details. Nevertheless, to be successful such labels need to be trusted by consumers and applicable in their habitual shopping practice (Spaargaren & Oosterveer 2010).

2.2 Certification and international institutions

Several international institutions are relevant when reviewing the introduction and development of certification schemes and sustainability labels. Among the most relevant ones are the WTO and the FAO, but ISEAL and ISO are important as well.

2.2.1 WTO[4]

The World Trade Organization (WTO) with 153 government members is responsible for the development of a framework for international trade that increasingly guides the regulatory practices of its member states also with regard to international fish trade and consequently determines the context in which private labeling initiatives operate as well.

The principal objective of the WTO is to facilitate international trade in support of global welfare and for this end unjustified barriers need to be reduced (Narlikar 2005). Therefore trade should only be regulated on the basis of end-product characteristics and not on the production method, or as the GATT-agreement states 'non-product-related process and production methods' can not constitute a basis for trade regulations (Oosterveer 2008). This means that social or environmental considerations should not interfere with the normal market mechanism where supply and demand are the main variables (Oosterveer 2007). This principle is further elaborated in the organization's TBT agreement. Governments, member of the WTO, are therefore seriously restricted in the inclusion of environmental considerations in their trade regulations, but NGOs and private companies are not and hence have much more room for intervening.[5]

---

[3] Third party certification is considered the most robust assessment process. This involves the main organization establishing the criteria for certification (the standard), and independent, accredited 'certifying bodies' conducting the assessments which determine whether or not a particular fishery meets those criteria.

[4] This section solely discusses the WTO's role on certification in relation to fish, however at the moment most attention within this organization is devoted to a debate on the role of fisheries' subsidies as an important contributor to overfishing (Sumaila et al. 2007).

[5] Some WTO members, particularly developing countries, argue that governments should also intervene in private standardization and labeling schemes because these may be trade restrictive as well. They claim that such schemes create higher producer costs and impose requirements that are often in excess of agreed upon international standards and not adapted to local conditions. Hereby they point at art.13 in the SPS-agreement which states that: "Members shall take such reasonable measures as may

2.2.2 FAO

The widespread introduction of certification schemes has also caused controversies in the FAO's Committee on Fisheries. Concerns about ecolabeling include its potential to act as a barrier to trade and its lack of coherence with international trade rules. Schemes have also come under scrutiny from different groups for not providing an accurate assessment of sustainability, for being limited in their application (e.g. being constrained geographically) and for a lack of flexibility, a potential for bias, or their (un)willingness to update assessments in the light of new information. To bring some order, the FAO has developed guidelines which are currently considered the most comprehensive benchmark. According to these FAO guidelines for the ecolabeling of fish and fishery products from marine capture fisheries (FAO 2005), labels should be consistent with the relevant international conventions, recognize the sovereign rights of states and comply with all relevant laws. In addition, they should be science-based, transparent, allow for fair participation by all interested parties, be non-discriminatory and not create unnecessary obstacles to enter international markets. They should also fulfill the requirements for third-party certification. Despite their comprehensive approach, these guidelines are considered problematic as a benchmarking tool because some of them are multi-interpretable, while some aspects are included in several guidelines (Vos et al. 2010).

2.2.3 ISEAL

The International Social and Environmental Accreditation and Labelling Alliance (ISEAL) was founded in 2002 by leading certification organizations.[6] ISEAL has developed process standards for social and environmental labels (http://www.isealalliance.org/ visited 10 August 2010). The organization's 'Codes of Good Practice', constitute a meta-standard providing a global benchmark for voluntary social and environmental standards-setting processes and is intended to help strengthen the effectiveness and impact of standards. These 'Codes of Good Practice', or Credibility Tools, are made up of a standard-setting code, and impacts code, and a verification code. For best practices in accreditation, labels must comply with ISO/IEC 17011:2004 (http://www.copperwiki.org/index.php/ISEAL visited 10 August 2010). ISEAL is also committed to measure the impact of standards and certifications and to improve the access to certification programs especially for small producers in developing countries. ISEAL is addressing this objective by launching an Accessibility Network and creating a Certification Information Centre.

---

be available to them to ensure that non-governmental entities within their territories, as well as regional bodies in which relevant entities within their territories are members, comply with the relevant provisions of this Agreement." This article however, contains no indication of how this should be done (http://www.wto.org/english/news_e/news10_e/sps_17mar10_e.htm accessed 1 July 2010). In recent months, this issue has been debated within the SPS Committee of the WTO but so far disagreement between the different member states prevails firstly on the legal authority to become engaged in this matter at all and secondly on how settle disagreements on private standards in case they would intervene (Bridges Weekly) Vol. 14 No. 25, 7 July 2010). For the moment, it seems very unlikely this issue will be clarified by the WTO within the foreseeable future.

[6] These organizations are Forest Stewardship Council (FSC), International Federation of Organic Agriculture Movements (IFOAM), Fairtrade Labeling Organizations International (FLO), Marine Stewardship Council (MSC), International Organic Accreditation Service (IOAS), Marine Aquarium Council (MAC), Rainforest Alliance, and Social Accountability International (SAI) (http://www.isealalliance.org/ visited 10 August 2010).

2.2.4 ISO

ISO, the largest standard developing organization, established a new technical committee - ISO/TC 234, Fisheries and Aquaculture in 2007, to develop international standards for the fish sector. They plan to issue ISO/WD 12875 standard which will contain traceability of fishery products and specification on the information that must be recorded in captured fish distribution chains and ISO/WD 12878 standard which will contain environmental monitoring of marine fish farms (Accenture 2009). These ISO standards will promote the sustainable development of the fisheries and aquaculture sectors; will develop specifications for technical equipment adapted to the local environment; will improve surveillance and management of marine resources; will enable international agreement on sampling methods; will improve the safety of employees and will establish a common terminology. The new ISO committee provides both private and governmental stakeholders with the opportunity to participate in the international development of standards for fisheries and aquaculture.

3. Eco-labels for fisheries

As mentioned in the introduction, in recent years several fish labels have been introduced and in this section I will be briefly introduce some of them without claiming to be exhaustive.[7] These include MSC, KRAV, FOS, Naturland and MEL-Japan more extensively and some others more briefly to indicate the continuous process of introducing additional fisheries ecolabels. Finally, I will mention some private actors that contribute considerably to the success of labels.

3.1 MSC label

The Marine Stewardship Council (MSC) is an independent non-profit organization set up in 1997 to solve the global problem of overfishing.[8] By now, MSC has become a major private labeling scheme and certified 94 fisheries (http://www.msc.org/track-a-fishery/certified visited 16 August 2010). The organization's mission is to use its ecolabel and fishery certification program to contribute to the health of the world's oceans by recognizing and rewarding sustainable fishing practices, influencing the choices people make when buying seafood, and working with partners to transform the seafood market to a sustainable basis (Accenture 2009). The standard is science-based and applies to wild-capture fisheries only. The MSC label establishes a collaboration between the different social actors involved in capturing and trading (the products of) a particular fish stock (Gulbrandsen 2009). The introduction and promotion of this scheme have been primarily driven by providers, such as fishermen, processors and traders. Consumers are simply requested to buy sustainably labeled fish and thereby contribute to more sustainable food provision (Oosterveer 2008).

The MSC has developed three principles and on this basis 31 performance indicators. The generic principles are:

1. 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.

[7] Notably only those labels oriented to marine capture fisheries will be reviewed and no schemes for aquaculture.

[8] The MSC was initiated by Unilever and WWF but after some years they withdrew to allow the organization to become independent (Gulbrandsen 2009).

2. fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.
3. 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.

On the basis of these principles all relevant actors in a particular fishery are engaged to develop a management plan that lives up to the different indicators and is assessed by an independent certifier. When certified its seafood can carry the blue MSC ecolabel.

As one of the first and still dominant fish certification schemes, MSC has also received criticism. These comments include that the MSC-criteria are not strict enough (applied) and that the initiative is biased to the Northern consumers at the expense of Southern producers because the certification and chain of custody costs are too high for small-scale fishermen (D. Constance, 2001; D. H. Constance & Bonanno, 2000). Furthermore, that the unit of certification is the fishery and not the fisher, so artisanal fishers can not obtain certification because they often compete in the same fishery with large-scale fishing units who refuse co-operation. Other points of criticism include the lack of inclusion of social factors and the absence of attention for the political economic consequences of labeling (Ponte, 2008).

3.2 KRAV eco-label

KRAV is an independent Swedish labeling organization that mainly operated in the area of organic food, but over the years has expanded into other domains, including fisheries (Boström & Klintman 2008). Out of dissatisfaction with the MSC label in Sweden, KRAV developed an alternative scheme that paid more attention to the feasibility of certification for fishermen (Boström, 2006). This way, KRAV intends to (Accenture, 2009) http://arkiv.krav.se/arkiv/internationellt/draft2-0.pdf visited 10 August 2010): contribute to the long term sustainability of marine fisheries by improving the possibilities for the fishing industry and other interested parties to actively support a good fishery management and to create a 'green' bonus for labeled products. In order to achieve this, KRAV prioritized:

1. Protection and preservation of fish stocks: safe stocks
2. Guaranteeing traceability to allow consumers to perceive eco-labeling as credible: traceability
3. Promoting selective fishing methods and gear that do not damage marine biotopes, including the seabed: safe methods

In 2004, KRAV issued standards for sustainable fishing (Accenture 2009; Parkes et al. 2009).[9] These standards consist of five sets of rules that cover all aspects of

[9] The KRAV fisheries system approves fish in two steps (http://www.krav.se/System/Spraklankar/In-English/Fishing/; visited 10 August 2010). In the first step, the application to open a fishery is approved. This involves a KRAV committee of experts, the fishing committee, evaluating whether the fishing will be carried out on stocks that are within biologically safe limits, whether the equipment is sufficiently selective and whether the target species contains abnormal levels of environmental toxins. On the basis of the fisheries committee's evaluation and proposed decision and the responses obtained during the consultation process, the CEO of KRAV then takes a decision on whether or not to approve the fishery. This decision also specifies the equipment permitted for use and other conditions for approved fishing. When a fishery has been approved, individual fishing vessels or a fishing company can apply for certification of its operations according to KRAV standards.

fishing, processing, and sales and contain conditions on the chain of custody from the fishery to the retailers, and requirements concerning fuel used by fishing vessels, the type of motor, the paint used on ships, etc. (Thrane et al. 2009). The standards were developed for Scandinavia and are neither tested nor intended for other areas so uptake of the scheme has been limited to date. At the moment there are several fisheries 'in the pipeline' in Norway, Sweden and Iceland and the scheme appears to be building some momentum (UNEP 2009). From 2010 KRAV will also accept applications for fish stocks outside Scandinavia.

3.3 Friend of the Sea (FOS)

Friend of the Sea is an independent non-profit, non-governmental organization, founded in 2006, aiming at conserving marine habitat and resources by means of market incentives, in particular the certification and promotion of sustainable seafood and products (Accenture 2009; Parkes et al. 2009) (http://www.friendofthesea.org/ visited 5 August). FOS provides information, primarily to consumers, through labeled products and through their website, but to companies as well. Friend of the Sea was founded by Dr Paolo Bray, the European Director of the Earth Island Institute's Dolphin-Safe Project and has evolved into an organization with an office in Italy and a branch in Canada and offices in the USA, Switzerland and India.[10]

FOS has introduced a voluntary market-driven certification scheme which certifies, with the same seal of approval, both farmed and wild-caught products. The FOS scheme follows the FAO - Guidelines for the Ecolabelling and reviews the sustainability of fisheries after their application using a standard application form. Candidate fisheries are assessed against published data, first by the Friend of the Sea after which they may be submitted to a third-party certification body (Sainsbury 2008). The criteria include (UNEP 2009) (http://www.friendofthesea.org/ visited 5 August):

- the fishery targets a stock that is not considered to be overexploited according to the FAO,
- the fishing method does not bycatch species listed in the IUCN Red list
- the fishing method does not discard more than 8% in weight of the total catch
- the fishing method does not impact the seabed
- the fishery complies with (inter)national regulations

Friend of the Sea is becoming a significant sustainable seafood certification scheme especially in Southern Europe, having assessed around 60 capture fisheries products, or more than 10 million MT of wild-catch and 500 thousand MT of farmed products (UNEP 2009). Many of the certified fisheries are small-scale (Sainsbury 2008). The FOS label is criticized mainly because its lack of professionalism[11] and its strategy to use already published data without direct assessment. [12]

[10] FOS is governed by a President (Franco Bray) and Director (Paolo Bray). An Advisory Board mainly composed of representatives of NGOs and seafood consultants in the USA, Canada, India, Switzerland and UK, initially established the certification criteria, and also provides strategic advice. The Technical Committee is an independent standard-setting body and 'open' and anyone with an interest in the seafood, fish feed/fish meal fields can apply to become a member. The Technical Committee can propose and vote on modifications to the criteria (Parkes et al. 2009).

[11] This criticism is expressed by Greenpeace claiming that FOS is not professional enough, lacks transparency, and has poor stakeholder involvement (http://www.greenpeace.org/international/seafood/changing-your-business/what-about-certification/friend-of-the-sea visited 10 August 2010). Greenpeace also argues that the quality and consistency of the assessments are poor, because the majority of assessment reports are essentially a Yes/No checklist assessment with minimal information provided to back the claim, while few of the

3.4 Naturland

Naturland was formed in 1982 to provide ecolabeling for organic agriculture and has a well-developed process of certification-accreditation, with frequent ISO audits to ensure the accreditation-certification system meets international requirements. In 2006, the organization extended its scope to include sustainable inland and marine capture fisheries and aquaculture (Accenture 2009; Sainsbury 2008; UNEP 2009). Sustainability in the sense of Naturland standards is a holistic concept (www.naturland.de/naturlandwildfish.html visited 11 August 2010) and therefore its Wildfish ecolabel standards are not only addressing the responsible management of natural resources and the protection of the entire aquatic ecosystem, but also the social aspects of fishery.[13] Naturland intends to set up a certification program for small-scale capture fisheries and to bring together organic farming and sustainable fisheries, e.g. in the field of processed/value added products, both, additionally, under social standards.[14]

The guidelines for sustainability focus on environmentally friendly use of fish stocks and the entire ecosystem, avoidance of critical and environmentally-harmful fishing methods, ecologically-sound processing without artificial additives or genetic engineering and a publicly-open, transparent approval process for all parts of the value chain. Social sustainability of a fishery means that the persons involved encounter fair working conditions, and that the livelihood of the wider society is not negatively impacted. Economical sustainability demands that the marketing of fishery products facilitates stable links between the members of the value chain, characterized by mutual responsibility and commitment.

3.5 Marine Eco-Label Japan

The Marine Eco-Label Japan (MELJ) was established in 2007 by the Japan Fisheries Association (JFA) (Accenture 2009; MEL Japan 2008). [15] Recognizing the global nature of the seafood industry and Japan being one of the largest markets for fishery products, Japanese stakeholders in the fishing industry and fisheries management have decided to respond to the situation proactively and establish their own ecolabeling

---

reports are referenced. The use of existing data and reports provides for both rapid assessment of candidate fisheries and for *a priori* lists of fisheries or fish products that are likely to meet the requirements. However these reports and assessments relate to stocks and fisheries that are variously defined for reporting purposes, and are sometimes ill-defined. It is not clear how the unit of certification relates to these varying definitions, especially when the certified stock or fishery is a subset of the reported stock or fishery. Nevertheless, Greenpeace witnessed significant improvements in standards and procedures after January 2009.

[12] For instance, the FAO themselves caution against the use of the 'state of exploitation' annotation for fisheries management purposes as they are intended as 'rule of thumb' indicators only and often aggregate information from more than one stock or sub-stock (Parkes et al. 2009).

[13] Naturland has a set of general criteria for wild-caught fish but then requires the development of project specific conditions for each fishery. This is done by a series of experts representing scientific institutions, fisheries authorities, NGOs and organizations from the fishing or processing industry. Every two years these conditions must be reviewed (Parkes et al. 2009).

[14] There have been no fisheries certified under this ecolabel yet, but currently the Lake Victoria fishery for Nile perch is being assessed. It is anticipated that this first assessment will result in further definition and refinement of the Naturland Wildfish criteria and methodology.

[15] The JFA is the umbrella organization of more than 400 organizations and companies in Japan's fishery industry (including the fishermen, the scientific community, conservation organizations, fish processors and distributors, consumers and food specialists), and will act as the secretariat for the scheme (UNEP 2009).

scheme, MELJ, as most suitable to the situation of the Japanese fisheries.[16] The label intends, based on the FAO Guidelines, to allow purchasers to promote and stimulate the sustainable use of fishery resources. Its stated goal is to promote a healthy marine ecosystem but it does not make a specific claim with regard to environmental benefits. The scheme makes no specific claims either on benefits in economic and social areas (Parkes et al. 2009). MEL-Japan is mainly a verification scheme to assure that management systems are in place. The approach makes active use of the practice of co-management of fisheries by fishermen to give closer attention to resource management, reinforce cooperation with scientists and administrators, and contribute to the accumulation of scientific data. Certification is realized at low costs by independent, third-party, certification bodies which form a certification team comprising scientists and other experts with a profound understanding of the Japanese fisheries and marine environment.

The basic principles are (Accenture 2009):

1. Promotion of the conservation and sustainable use of marine resources and the conservation of marine ecosystems
2. Co-management
3. Scientific and objective certification

MELJ is primarily oriented to the domestic Japanese fishing industry and consumer market. The first fishery was certified in December 2008 and it is not yet clear exactly where its products are sold but almost certainly within Japan only (Parkes et al. 2009). All current applicant fisheries are Japanese wild-capture fisheries.

3.6 Other fish labels

Next to these labels, there are several other initiatives worth mentioning because they display interesting features.

First there are two single issue labels that focus on the mortality of dolphins in the capture of tuna, the 'AIDCP' and the 'dolphin safe tuna' labels. The countries and regional economic integration organizations participating in the Agreement on the International Dolphin Conservation Program (AIDCP) announced a program to certify and label tuna caught in the eastern Pacific ocean consistent with the AIDCP without mortality or serious injury to dolphins (Accenture 2009). The AIDCP Dolphin Safe Tuna Certification is supported by a comprehensive and transparent multilateral tracking and verification system administered by member governments and the treaty organization to ensure full consumer confidence in the AIDCP Dolphin Safe label. The Earth Island Institute established an International Monitoring Program in 1990 to monitor catches and shipments around the world and to guarantee companies and consumers that tuna caught in a "Dolphin Safe" manner is protecting dolphins, (Accenture 2009).[17] Its 'dolphin-friendly/safe' labeled tuna determines the level of interaction with dolphins and other cetaceans in the capture of tuna (Robbins et al 2010; UNEP 2009). All fishing and carrier vessels; all processing, storage, and

[16] In Japan practical and effective resource management-oriented fisheries, incomparable to other parts of the world, have developed and expanded. The country knows many small-scale fishers and fishing boats as well as a variety of target fish species in fisheries. A framework encourages fishers and others users of the resources to fulfill their role in resource management. Fishermen, regional and central governments are united in participating in the current framework for resource recovery (Accenture 2009).

[17] More than 200 processing and fishing companies are approved by EII representing around 90 percent of all tuna canners globally, including in developing countries, and more than 200 importers, distributors, brokers, retailers, and agents, with a stronger focus on developed countries.

transshipment facilities; and all procurement records related to the purchase, processing, storage, transport, and sale of tuna must be made available for independent EII-approved monitoring. It works with tuna companies - import associations, fishing fleets, canners, and brokers - to establish "Dolphin Safe" policies for each company and is one of the largest private food monitoring systems in the world.

Fair-Fish developed a very comprehensive labeling scheme. Founded in Switzerland in 2000 by animal welfare organizations, Fair-Fish differs fundamentally from certification schemes that focus on sustainability only (Accenture 2009). Fair-Fish includes environmental, social and animal welfare criteria,[18] offering better chances to small-scale fisheries which usually cannot access the world market.[19] The certification sets fair conditions and a fixed minimum price for fishers and their families while at the same time seeking to conserve fish stocks.

3.7 Involvement of other market actors

Several fish processing and food service companies, and retailers have committed themselves to support more sustainable fisheries (UNEP 2009; Parkes et al. 2009).

Unilever,[20] a large food processing company, is committed to source all its fish from sustainably managed fisheries. Unilever asks their suppliers to confirm that their fish are legally caught in specified FAO catch areas and that they are not involved in species threatened with extinction.[21]

CapVest, owner since 2006 of Young's Seafood and Findus (regrouped under FoodVest Ltd) is today Europe's largest seafood operator. The group has created an internal think tank, its "Sustainable Seafood Group" and in 2006, FoodVest's procurement policy was based around a set of ten major rules, including the commitment never to buy illegal fish and to carry out objective assessments of the environmental efficiency of all fish purchases.

In March 2006, Compass Group USA, the largest contract food service company in the US, announced to move toward sustainably sourced supplies.

EcoFish is a leading sustainable seafood company in the US and provides fresh and frozen seafood to more than 125 upscale restaurants and over 1,200 gourmet and natural food stores. EcoFish is sourcing its supplies from species and fisheries which are evaluated as sustainable by a Seafood Advisory Board.

A substantial number of large retailers has declared their commitment to promote sustainable fisheries, often by selling MSC-certified products.[22] These

[18] Fair-Fish animal welfare criteria for fisheries: "We accept … fishing methods which do not hold the fish for a long time in the fishing gear and which allow to stun and kill every fish immediately after it is taken off the water. Traditional fishing at coasts and on lakes can cope with these criteria with good will and suitable methods. Industrial fishing however will hardly be able to keep up" (http://www.fair-fish.ch/files/pdf/english/ff_short.pdf, visited 13 august 2010).

[19] Since 2004 it has been involved with a project in Senegal to export "fair fish" from Senegalese coastal fisher-folk to Europe. The first small imports from Senegal began in March 2006 for direct marketing to Migros in Switzerland (Accenture 2009).

[20] Unilever was also instrumental in setting up the MSC initiative in 1997 in association with WWF before the organization went independent in 1999.

[21] In 2004, only four percent of Unilever's European fish products originated from MSC-certified fish. In 2005, this share rose to 46 percent, mainly due to the use of Alaskan Pollock, with the share of supply from sustainable sources reaching 56 percent if Unilevers' in-house assessment is taken into consideration.

[22] December 2007 the Dutch retail sector has agreed to work towards selling only sustainable fish and seafood by 2011.

companies include Sainsburys,[23] Waitrose, Coop, ASDA, Ahold, Tesco, Marks and Spencer's, Wal-Mart, Wholefoods, Migros, Lidl, The Metro group, The Auchan group, the Carrefour Group,[24] Champion, Kaufland, EDEKA, Morrisons, Delhaize (Parkes et al. 2009). As of April 2007 there were 38 retailers selling MSC-labelled products, 26 in Europe/Switzerland, 8 in the USA, and 1 in South Africa and Hong Kong, and 2 in Japan. There were also 14 food service companies involved, all in the EU except for one in the USA. The FOS scheme is used by: Booths, Carrefour Italy, Carrefour Portugal, Coop Italia, Fresh & Wild, GS, Iper, Keracher Planet Organic, Sainsbury, Tesco, Unes, Scoop, and Wholefoods.

4. Discussion

As clearly illustrated in the previous section, private labeling of fish is increasing fast and has established itself as a reliable tool in environmental fisheries governance. This growth has evidently also led to debate. Key issues in these discussions concern the effectiveness of such labeling schemes in promoting sustainable fish stocks, their legitimacy, the presence of multiple competing labels, and the consequences of using market-based instruments.

Several commentators ask whether fish ecolabeling really leads to sustainably managed fish-stocks. First they question whether the correct sustainability criteria are identified and whether they are correctly applied (Belton et al. 2010). Partly this question concerns the professionalism of the staff of NGOs and certifying bodies, particularly when dealing with complex fisheries and partly it has to do with the availability of reliable information. Standards should be rational, robust, and capable of withstanding close scrutiny from competitors, consumers and other interested parties (ibid.), but not all schemes adhere to this requirement. Secondly labels seem to only certify the already more sustainably managed fisheries but not can the endangered ones, hence limiting their impact. Finally, some argue that labeling a fishery does not solve the fundamental problem of overconsumption of fish and that reduction of consumption is the only effective strategy.

Another debate concerns the presence of multiple private labeling schemes while, as presented above, their number only increases. This situation may lead to confusion among consumers and fishermen: which one to chose.[25] Different schemes certify different things, apply different standards and use different methodologies.

[23] Sainsbury's (UK) has a decision tree they developed with stakeholders to decide what fisheries they will source from. They choose to make the focus of their efforts the 'big 5' (cod, haddock, salmon, tuna and prawns) which account for 80% of all fish sold every week and to move them to 100% sustainable sources, ensuring that the fish are caught or reared with minimal impact on stocks, ecosystems, and the wider environment. Sainsbury's also has projects working with suppliers, fishermen, vessel owners and the Governments in Sri Lanka and the Maldives to make fresh and canned tuna fully MSC-certified. 100% of its canned tuna should now be from pole and line capturing methods.

[24] The French Carrefour Group initiated its own Responsible Fishing standard in 2004, "Pêche responsible". The standard was applied only on selected species fished in Iceland and sold in Carrefour supermarkets in France and Belgium. It assured responsible fishing, guaranteed optimal traceability and stock management as well as respect for the ecosystem. This initiative never really became successful and today Carrefour is progressively withdrawing the standard and instead promotes MSC certified items. Carrefour Italy also sells FOS-labelled products (UNEP 2009; Accenture 2009).

[25] The Dutch Ministry tried with the help of a benchmark study on the basis of the FAO guidelines to differentiate between fish labels (MSC, FOS, KRAV, Naturland, SKAL and Milieukeur) but the study concluded that none of them fully complied with the guidelines but most of them to a large extent (Vos et al. 2010).

There has been little effort to seek equivalence between different schemes. Consumers may have problems in selecting a labeled product because they are not sure about their objectivity nor completely aware what the label actually stand for (Iles 2007). Next there are also substantial asymmetries in consumer interest in applying environmental considerations when buying fish(products) (Belton et al. 2010), and especially Asian consumers seem little interested although they consume the majority of fish globally. Fishermen necessarily chose one certification scheme to promote their environmental credentials, because they are often time-consuming and costly. The fishing industry generally bears the cost of preparing documentation and meeting any imposed conditions. This means they will select based on an assessment of the potential costs and benefits involved, together with market recognition and how they can take advantage of this (Parkes et al. 2009). As a result this will not necessarily be the scheme that is best performing in environmental respect.

A fundamental issue concerns the accountability and legitimacy of labels because this is not so much based on procedures, like formal democracy for the nation-state based regulations, but rather on their (intended) output.[26] Fish labelling schemes argue that they will assure the sustainability of fish provision for the longer term. Their authority is based on the use of objective, scientific methods to achieve a publicly recognised goal and on public participation and transparency. The use of scientific methods and information in the implementation process is explicitly referred to as an important justification for the authority of the initiative. Countervailing power to biased private interests can be found within these arrangements, as stakeholders are necessarily involved and can express their interests and concerns through the official procedures. Transparency in procedures and outcomes improves the conditions for holding both certifiers and companies to account for their practices.[27] Legitimacy can be further strengthened through open public debates.

All certification schemes seem to focus on environmental sustainability (with the notable exception of Fair-Fish), but their use has social and economic consequences. Small-scale and data-poor fisheries may not be able to provide the required data and are consequently denied access to attractive markets. Furthermore, sustainably labeled fish is more expensive creating a barrier for poor consumers as well. Ultimately this may mean the creation of two worlds of fish one with sustainably labeled fish(products) for the richer consumers and a second with not (or against lower standards) labeled fish for the poorer consumers. Adding fair trade criteria to environmental labeling could however restrict the number of potentially complying fisheries and increase labeling costs. Another excluded criteria in the existing labels is animal welfare which is currently attracting much more concern among consumers than in the past and which may be relevant for tuna. As will The only label that explicitly refers to these wider criteria is Fair-Fish but its current marginal position makes this an unlikely candidate for labeling tuna fisheries.

5. Conclusions

In recent years labeling sustainably managed fish has become a necessary instrument in global fisheries governance. The number of labels has increased rapidly and

[26] The absence of such formal authority is even used as an argument for the legitimacy of certification schemes, because this precludes their imposition without stakeholder consultation and voluntary consent.

[27] 'Governance by disclosure' permits consumers to chose sustainable fish (Auld & Gulbrandsen 2010).

demand for such products outstrips their availability. So discussing the future of tuna fisheries in the Pacific should include this governance tool and thereby consider the following conclusions.

- labeling tuna requires a new (or combined) certification scheme

Voluntary certification schemes can definitely contribute to more sustainably managed tuna. However, as it concerns a major, very complex, highly migratory fishery, certification is particularly challenging. [28] To establish effective tuna governance, certification schemes should allow for balanced participation of retailers, processors, buyers, distributors and the fishing industry. Existing certification schemes seem ill-fitted because the tuna-fishery is too complex as it involves large areas and many stakeholders with competing interests. Particularly when a scheme should promote interests of small-scale fisheries an innovative scheme is probably needed, either through introducing a new label or through the use of a combination of labeling schemes (a meta-standard), for instance MSC and Fairtrade. Although small-scale fishermen may be the target group of such an approach they may not be expected to take the lead in developing such innovative governance approach. Their background and limited resources put severe restrictions on their involvement and therefore the leading partners should be found among the private companies and interested NGOs. When further developing the arrangement they should however actively seek involvement of local fishermen and local governments.

- private labeling of tuna can not be effective without active involvement of public authorities

Voluntary labels alone can however not solve the problem and they need to interact with governmental arrangements when managing tuna fisheries for public interests (Mansfield 2004/2007). The instruments of government-sanctioned marine reserves, rules-based restrictions on the access to fish resources, stringent distributive schemes and the curtailment of illegal, unregulated and unreported fishing through governments remain essential (Gulbrandsen 2009). In general, private schemes require functional public regulation (a legal system) and a public sphere where environmental claims from labels can be assessed and discussed. But particularly for complex fisheries like tuna, active involvement of public authorities is necessary to balance different interests, to better assure compliance and to prevent unwanted side effects. In managing this global flow of tuna the different governments have to co-exist and interact with private companies and NGOs in unfamiliar roles to develop innovative arrangements.

- labeling tuna needs coordination along the complete global supply chain and not ignore the role of consumers

[28] 'As more and more developing countries seek access to highly migratory species resources, management is bound to become more difficult. The removal of formal and informal barriers to trade in HMS products could help to reduce such conflict by improving the responsiveness of economically vulnerable countries. Such a move would increase the potency of trade-based enforcement mechanisms by bringing more fishers into the international marketplace. Formal institutions that force agreements through majority decision making would probably be counterproductive, but any that facilitate linkages between fishing countries, particularly side payments and quota swaps, would be useful. Eventually, internationally tradable quotas may become feasible, reducing the political conflict that makes HMS management so precarious' (Hannesson & Kennedy 2009: p. 28).

Tuna is a globalised fishery par excellence which means that it has to be approached as a highly connected global network, as a global flow. Managing tuna fishery in the Coral Triangle can therefore only be successful if other relevant actors and institutions along the global supply chain are also involved. Whatever intervention will be aimed this has to be coordinated globally and not only focus on the fishery itself as is often the case. Particular attention should be given to the involvement of consumers as their role is often ignored while they are the target group when certification schemes are to be effective.

Literature

Accenture (2009). *Assessment of on-pack, wild-capture seafood sustainability certification programmes and seafood labels*. Zurich: Accenture and WWF International.

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

Beck, U. (2005). *Power in the Global Age; A new global political economy*. Cambridge: Polity Press.

Belton, B., Murray, F., Young, J., Telfer, T., & Little, D. (2010). Passing the Panda Standard: A TAD Off the Mark? *AMBIO: A Journal of the Human Environment, 39*(1), 2-13.

Boström, M. (2006). Establishing Credibility: Practising Standard-Setting Ideals in a Swedish Seafood-Labelling Case. *Journal of Environmental Policy & Planning, 8*(2), 135-158.

Boström, M., & Klintman, M. (2008). *Eco-standards, product labelling and green consumerism*. Houndmills: Palgrave MacMillan.

Castells, M. (2004). Informationalism, networks, and the network society: a theoretical blueprint. In M. Castells (Ed.), *The Network Society. A Cross-cultural Perspective* (pp. 3 - 45). Cheltenham, UK and Northampton (MA), USA: Edward Elgar.

Constance, D. (2001). From "Dolphin-Safe" Tuna to the Marine Stewardship Council: Ecolabelling in the Fisheries Sector. *The Common Property Resource, 56*, 1-3.

Constance, D. H., & Bonanno, A. (2000). Regulating the global fisheries: the World Wildlife Fund, Unilever and the Marine Stewardship Council. *Agriculture and Human Values, 17*, 171-187.

FAO (2005). *Guidelines for the ecolabeling of fish and fishery products from marine capture fisheries*. Rome: FAO.

Gulbrandsen, L. H. (2009). The emergence and effectiveness of the Marine Stewardship Council. *Marine Policy, 33*(4), 654-660.

Hannesson, R., & Kennedy, J. (2009). Rent-Maximization Versus Competition in the Western and Central Pacific Tuna Fishery. *Journal of Natural Resources Policy Research, 1*(1), 49-65.

Iles, A. (2007). Making the seafood industry more sustainable: creating production chain transparency and accountability. *Journal of Cleaner Production, 15*, 577-589.

Kastner, J. J., & Pawsey, R. (2002). Harmonising Sanitary Measures and Resolving Trade Disputes through the WTO-SPS Framework. Part I: a Case Study of the US-EU Hormone-treated Beef Dispute. *Food Control, 13*, 49-55.

Konefal, J., Mascarenhas, M., & Hatanaka, M. (2005). Governance in the Global Agro-food System: Backlighting the Role of Transnational Supermarket Chains. *Agriculture and Human Values, 22*(3), 291-302.
Mansfield, B. (2004). Neoliberalism in the oceans: "rationalization," property rights, and the commons question. *Geoforum, 35*(3), 313-326.
Mansfield, B. (2007). Articulation between neoliberal and state-oriented environmental regulation: fisheries privatization and endangered species protection. *Environment and Planning A, 39*(8), 1926-1942.
MEL Japan (2008). Marine Eco-label Japan Established. *Isaribi - Fishing Fire, 57*.
Narlikar, A. (2005). *The World Trade Organization. A Very Short Introduction*. Oxford: Oxford University Press.
Oosterveer, P. (2007). *Global Governance of Food Production and Consumption; Issues and Challenges*. Cheltenham and Northampton: Edward Elgar.
Oosterveer, P. (2008). Governing global fish provisioning: Ownership and management of marine resources. *Ocean & Coastal Management, 51*, 797-805.
Parkes, G., et al. (2009). *Review of Fish Sustainability Information Schemes; Final Report*. Edinburgh: MRAG and Stirling University.
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.
Potts, T., & Haward, M. (2007). International trade, eco-labelling, and sustainable fisheries – recent issues, concepts and practices. *Environment, Development and Sustainability, 9*(1), 91-106.
Robbins, P., Hintz, J., & Moore, S. A. (2010). *Environment and Society. A Critical Introduction*. Malden and Oxford: Wiley-Blackwell.
Roheim, C., & Sutinen, J. G. (2006). *Trade and marketplace Measures to promote Sustainable Fishing Practices* (Issue Paper 3). Geneva: ICTSD and the High Sea Task Force.
Rubik, F., & Frankl, P. (Eds.). (2005). *The Future of Eco-labelling; making environmental product information systems effective*. Sheffield: Greenleaf.
Sainsbury, K. (2008). *Review of Guidelines for Ecolabelling of Fish and Products from Capture Fisheries, and Recommended Minimum Substantive Requirements*. Rome: FAO.
Spaargaren, G., & Oosterveer, P. (2010). Citizen-Consumers as Agents of Change in Globalizing Modernity: The Case of Sustainable Consumption. *Sustainability: Science, Practice & Policy, 2*(7), 1887-1908.
Sumaila, U. R., et al. (2007). The World Trade Organization and global fishries sustainability. *Fisheries Research, 88*, 1-4.
Thrane, M., Ziegler, F., & Sonesson, U. (2009). Eco-labelling of wild-caught seafood products. *Journal of Cleaner Production, 17* 416-423.
UNEP (2009). *Certification and Sustainable Fisheries*. Paris: United Nations Environment Programme (UNEP), Division of Technology, Industry and Economics.
Vos, B. d., Bikker, A., & Soma, K. (2010). *Eco-labels voor visserij en viskweek. Benchmark aan de hand van FAO-richtlijnen*. The Hague: LEI-Wageningen UR.