

MSC Certification and Its Implementation for Japan's Fisheries – Its Role and Issues –

Arata IZAWA¹ and Mitsutaku MAKINO²

¹*TRAFFIC East Asia-Japan/ WWF Japan,
3-1-14 Shiba, Minato-ku, Tokyo 105-0014, Japan
e-mail: izawa@trafficj.org*

²*National Research Institute of Fisheries Science, Fisheries Research Agency,
2-12-4 Fukuura, Kanazawa-ku, Yokohama, Kanagawa 236-8684, Japan
e-mail: mmakino@affrc.go.jp*

Abstract

As the fishing industry has a tremendous impact on the marine environment, fisheries management must not only focus on the management of marine resources, but must also aim to be environmentally sustainable. The Marine Stewardship Council (MSC) - which certifies sustainable fisheries - was created to provide a market-based set of incentives for better management of fisheries to achieve sustainable seafood production. This paper summarizes the MSC's history, objectives and current situation and reviews its past researches. Also, the reasons MSC certification has not been achieved in Japan and future issues to be investigated are discussed.

Social and cultural factors have a great influence on consumer acceptance and preference for ecolabeled seafood. As Japan is the world's largest importer of seafood, its consumption practices greatly affect world fisheries, so the characteristics of the Japanese market should be analyzed.

The reasons Japan has not achieved any certification to date are political in nature or due to the complexity of its fisheries distribution and fisheries cooperative systems. However, as environmental awareness of consumers and industry continues to rise, such barriers may be overcome in the near future. Environmental NGOs will increasingly play a greater role, as dialogue between industry and government is promoted.

Key words: ecolabeling, fisheries management, MSC, seafood certification, WTP

1. The MSC's Role

The fishing industry greatly affects the marine environment. Fisheries catch target species that are a part of the marine ecosystem and profit by converting the catch into money. Some fisheries catch non-target species along with target species, prospectively affecting the biological community. As non-target species are usually discarded, this may impose an even greater burden on the marine environment. Fishing practices such as bottom trawling can physically destroy and alter the marine ecosystem. Not only do fisheries have a direct impact on the environment, they can indirectly affect the marine ecological equilibrium.

Therefore, fisheries management must not only focus on the management of natural resources, but must also aim to be environmentally sustainable. Although sustainable fisheries management benefits fisheries in the long run, fisheries tend to pursue short-term profits, so it is difficult to achieve well-

managed sustainable fisheries. For example, limiting the total catch according to a fisheries quota system means giving up the part of today's possible catch. Furthermore, since the total catch amount for the next year is unknown, individual fisheries try to secure greater amounts of marine resources faster than other fisheries, and this can be understood as a rational economic activity that aims to avoid short term risks. Therefore, the costs and risks involved in fisheries

Table 1 Environmental impact of fisheries.

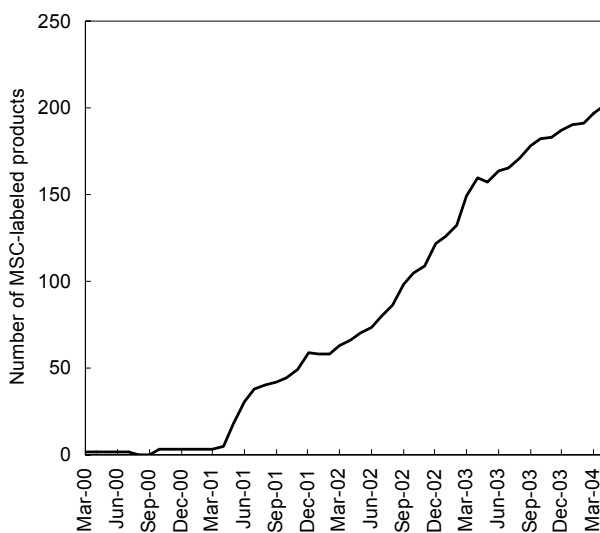
Impact		Direct	Indirect
Biological	Target species	Fishing mortality	Food-chain
	Non-target species	Bycatch	
Physical		Habitat damage	

Modified from Katsukawa (2003).

management should not be shouldered only by the supply side, but a market the prices of which are in line with the costs and risks involved must be established. In order to give fisheries an economic incentive for implementing well-managed sustainable fisheries, it is alternative to create high market demand for ecolabeled seafood.

The Marine Stewardship Council (MSC) was created by the World Wide Fund for Nature (WWF) and Unilever, and became an independent non-profit organization in 1999. The MSC certifies sustainable fisheries by allowing them to carry the MSC logo on their fishery products. The MSC also certifies members of the supply chain with a Chain of Custody (CoC) so that certified and non-certified seafood do not get mixed up in the processing and distribution stages. The MSC would lose its credibility if fisheries were the only parties certified. This traceability is secured by either placing an MSC label on each fish after landing, or by recording the amount and defect rate of the product's input and output in a manner that can later be verified. Unilever was involved in the MSC's establishment because it is one of the world's largest buyers of fish and was convinced that responsible procurement of raw materials would lead to sustainable, well-managed fisheries.

Eleven fisheries have been certified by the MSC, including New Zealand's Hoki Fishery, Baja California, Mexico's Red Rock Lobster Fishery and South Africa's Hake Fishery. Furthermore, 16 fisheries are undergoing assessment, including British Columbia, Canada's Pacific Halibut Fishery, Southern Sweden's Sander Fishery and the North Sea Herring Fishery. There are over 200 MSC labeled products, and the number of products continues to rise (Fig. 1). Japan however has no record to date of selling MSC-certified products to date.



Source: MSC (2004).

Fig. 1 Number of MSC-labeled products from March 2000 to April 2004.

2. Recent MSC-Related Research

2.1 Impact on industry

There has been limited research on the MSC, as it is still a young organization. Therefore, this paper will review recent research on the MSC's influence on consumers and industry, including an analysis of the Forest Stewardship Council (FSC) and ecolabeling in general.

The MSC is intended to benefit to fisheries and stakeholders such as producers, processors, wholesalers, import/exporters, retailers, and food service and restaurant sectors in various ways.

Firstly, since product certification enables consumers to determine the differences between certified and non-certified products, profit margins will increase by a price premium added to certified products. According to Roheim (2003), for example, the press release on MSC certification awarded to Thames Herring resulted in a 50% price increase by seafood buyers.

Secondly, ecologically sound management of natural resources will improve the marine environment and the improved environment may in turn, lead to an increase in quotas and permits.

Thirdly the stabilization of fish prices brought by certification can hedge economic risks considerably for fisheries households (Anonymous, 2001).

Additionally, an increase in market share for certified products is anticipated as consumer demand for ecolabeled seafood increases. For example, the OECD (1997) pointed out an increase in the market share of ecolabeled sanitary paper by Blue Angel from 32% in 1986 to 64% in 1993. Blue Angel is now planning further expansion of its business scope into new domestic and international markets.¹⁾

Other benefits of MSC certification aside from economic aspects include promoting a green corporate image, being a market leader in the fishing industry, raising corporate social values, reducing secondary costs by raising environmental awareness within the company, and ensuring prompt compliance with environmental measures.

However, a high fee must be paid in order to receive certification from the certification agency. The certification fee covers mainly the initial assessment audit and license fees. Furthermore, since traceability is an important aspect of ensuring that the product has been separated from non-certified products at every stage of production, a Chain of Custody (CoC) certification is required in order to be able to apply the MSC label. Other costs include a surveillance audit fee, costs of implementing new management procedures and an opportunity cost generated by yield reduction. If certification costs cannot be covered by price premiums even in cases where there is high market competition for the product, there will be little incentive for producers to pursue certification.

An empirical study of the cost of certification was conducted by Wessells *et al.* (2001). The Western

Australia's Rock Lobster Fishery is one of the most valuable fisheries in Australia, with an annual export value of about Aus \$370 million (U.S. \$185 million). It involves a fleet of 596 boats (8 m length) and generates direct employment for some 4,000, mostly people in rural communities. According to Mr. Ross Gould, Supervising Fishery Manager of Commercial Programs, Department of Fisheries, Government of Western Australia, the direct costs of the assessment process were Aus \$200,000 with at least a further Aus \$100,000 of in-kind contribution by the industry and the Department of Fisheries. The subsequent launch and promotion of the MSC certification also added a further Aus \$100,000. The rock lobster fishery operates under a cost recovery regime where fishermen's license fees are used to cover the costs the Department incurs in managing the fishery. Therefore much of the costs to meet the requirements for ongoing certification will be met through the industry's annual license fees. It is anticipated that the next full assessment in 2005 will cost an additional Aus \$100,000-150,000. The license fee for the use of the MSC logo is currently set at 0.05% of the sales value at the point of labeling. This would add a further cost of Aus \$185,000.

As seen above, the cost of certification is considerable. However, as observed by Simura (1996) in the case of the FSC, group certification of several forests collectively decreased the marginal cost. For this reason, group certification is conducted for small private companies and in developing countries. Also, governments and NGOs will play a greater role in covering certification fees in the future.

As for the MSC's impact on the world trade regime, there is heated discussion in the World Trade Organization (WTO). For example, if importers with a big domestic market implement domestic ecolabeling standards, compliance costs for exporters to fill the standards is essentially a nontariff barrier (Fujioka, 2001).ⁱⁱ⁾ In that sense, there is strong criticism of domestic certification standards as being favorably set for domestic companies, and ecolabeling has been found to be discriminatory – especially to developing countries.ⁱⁱⁱ⁾ On the other hand, Veena Jha *et al.* (1999) indicated that the ecolabel has little influence on trade in the developing countries since ecolabeled products are mainly traded among developed countries only. Food and Agriculture Organization of the United Nations (FAO) published 'Report of the Technical Consultation on International Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries' in 2004 and it was adopted at the twenty-sixth session of the Committee on Fisheries (COFI) of FAO in 2005. The MSC was involved in the development of the guidelines through the FAO's stakeholder consultation process and affirmatively evaluated them (MSC, 2005). The guidelines address the three principal procedural and institutional matters that any ecolabelling scheme should

encompass: (1) the setting of certification standards, (2) the accreditation of independent certifying bodies, and (3) the certification that a fishery and the product chain of custody are in conformity with the required standard and procedures. The Committee also noted the special circumstances, conditions and concerns applying to developing countries and countries in transition that required time, financial and technical assistance to develop and maintain appropriate fisheries management arrangements in order to participate in, and benefit from, voluntary ecolabelling schemes. It was additionally agreed that direct support towards the often high cost of accreditation and certification would also be necessary. WWF is concerned that small-scale fisheries have the same opportunities to participate in the MSC certification scheme as the large-scale fishing interests and has developed a methodology for Community-based Certification (CBC), which adheres to the MSC's Principles and Criteria (WWF, 2005).

2.2 Impact on Consumers

This section reviews the impact of MSC or ecolabels on consumer-purchasing behavior. First of all, ecolabeling schemes raise consumer environmental awareness. If ecolabels did not exist, consumers would not be aware of how their consumption activities affect the environment. This is a great role that is endowed to the ecolabel.

The economic influence of the ecolabel relies heavily on consumer acceptance (Caswell & Mojduszka, 1996). Research on consumer tendencies to choose ecoabeled products has been conducted for: apples (Blend & van Ravenswaay, 1999), wood (Forsyth, Haley & Kozak, 1999) and clothes (Nimmon & Beghin, 1999). Since a large cost is incurred for certification, a successful program is dependant upon how much of an additional cost consumers are willing to pay for certified products (Gudmundsson & Wessells, 2000).

Recent research on consumer preference for Forest Stewardship Council (FSC) certified products shows that although there were differences among products, consumers generally showed an interest in certified products (Kajiwara, 2003). Ishii and Kuriyama (1999) measured consumers willingness to pay (WTP) for ecolabeled wood in newly built wooden houses. For a non-certified house priced at JPY 70 million (price for both the land and the house), a consumer's WTP for 1% additional use of certified products was JPY250,000.^{iv)}

As for seafood certification programs other than the MSC's, Teisl *et al.* (2002) analyzed the impact of the Dolphin Safe label on consumer purchasing behavior. It verified a consumer preference for ecolabeled products, and observed an expanded market share for ecolabeled tuna products.

According to the United States Environmental Protection Agency (USEPA, 1998), factors influencing

consumer acceptance are credibility of the agency providing the ecolabel, links between product choices and environmental impact, and understanding of the label's meaning. However, social and cultural factors must also be considered. Johnston *et al.* (2001) expanded on the study by Wessells *et al.* (1999) and conducted a comparative analysis of the U.S. and Norway. Based on data from a telephone survey of 6,220 random households (3,100 in the U.S. and 3,120 in Norway), a Multi-attribute Contingent Choice Model was applied, measuring the following aspects: (1) if consumers preferred ecolabeled seafood, (2) which factors influenced consumer choices and (3) if their impacts differed across countries. The results showed that social and cultural differences greatly influence consumer preferences for ecolabeled seafood.

One study on ecolabeled milk products has been conducted in Japan (Sawada, 2004). 1,100 persons were surveyed by mail on the following factors: the Hazard Analysis Critical Control Point (HACCP) label – a food safety management system that guarantees environmentally safe production processes, the ecomilk label – which certifies green production processes (i.e. livestock waste management), and the quality freshness date of food products. The results showed the order of importance rated by the consumer to be the quality freshness date as top priority, followed by price and finally the ecolabel. WTP figures showed JPY 20-36, equivalent to 12%-24% of the sale price for HACCP, and JPY 14-23, equivalent to 8%-11% of the sale price for the ecomilk label. The study showed that ecolabels had a significant influence on consumer decisions when purchasing milk.

There have been no quantitative studies on the Japanese seafood market to date. As observed by Johnston *et al.* (2001), social and cultural factors greatly influence consumer acceptance. Therefore, tendencies of Japanese consumers cannot simply be inferred from the aforementioned two international case studies. Future analysis is strongly anticipated.

3. MSC Implementation in Japan

In 2002, Japan ranked 4th in the world for seafood capture production at 4.6 million metric tons. Also, Japan is a major consumer of imported seafood, the value of which is ranked number one in the world at U.S.\$ 13.9 billion, while the export value was U.S.\$ 0.8 billion. There is no doubt that the purchasing activities of Japanese consumers greatly impact the sustainability of world fisheries.

Although there are several well-managed fisheries in Japan, no system exists for consumers to choose ecolabeled seafood. Under such conditions, since value-added products by well-managed fisheries cannot be easily sold on the market, producers have little incentive for managing and conserving fishery resources. The following factors prevent MSC implementation in Japan:

1. The political context: the Japanese fishing industry is rather hostile towards environmental NGOs due to whaling issues and the banning of drift net practices in international waters. They were critical of the MSC from the onset.
2. Japan's peculiar seafood distribution system: many Japanese producers land small amounts of a wide variety of seafood. Products sold on the wholesale market are frequently processed by several small processing companies and retailers before being marketed. Therefore, it is difficult to secure the product's traceability.
3. Uncertainty about consumer interest in ecolabeled seafood: in general, factors which the most influence on Japanese consumer purchasing behavior for seafood are price, freshness, color, taste and percentage of fat composition. It is therefore unknown how interested consumers are concerning the environmental impact of seafood production.
4. The Japanese fisheries cooperative system: according to the institutional framework of fisheries management in Japan, various types of operations and regulations exist within a single fisheries cooperative association (Makino & Matsuda, 2005). Under such a system, it is difficult to determine whether certification should be conducted on a specific fishery or on several fishing cooperatives collectively, or if all fisheries of a specific region should be certified (Kawabe, 2005).

However, in recent years, the situation has been changing as follows:

1. Promotion of dialogue between the fisheries industry and environmental NGOs will raise awareness of the MSC's goal of promoting the sustainable use of fishery resources.
2. Consumer awareness of safe food due to the *Escherichia coli* 157 epidemic, avian Influenza (bird flu) and bovine spongiform encephalopathy (BSE) have raised interest among distribution companies in the traceability of food products, including seafood.^{v)}
3. According to a preliminary survey by WWF Japan, several retailers have started to show an interest in environmentally safe seafood to promote corporate social responsibility and improve their company's brand image. Some companies are anticipating the promotion of Japanese MSC-certified products.

In order to contribute to this trend, research on Japanese consumer preferences for ecofriendly seafood is strongly urged. Topics of research should include measurement of consumers' price premium for MSC certification. Comparative analysis among Japan and other countries such as the U.S. or Norway, for example, would also be promising. In terms of seafood trade, the impact of MSC certification on the Japanese seafood export market, or the impact of import of MSC products, such as Alaskan Pollock from the Bering Sea, on the domestic market are also poten-

tially significant, and should be studied.

4. Conclusion

The fishing industry can greatly impact the marine environment and also indirectly influence the marine ecosystem food chain. Fisheries management must not only focus on natural resource management, but must also aim to conserve the marine environment. However, even if conserving the marine environment conservation may be beneficial to fisheries in the long run, fisheries tend to pursue short-term profits mainly due to the uncertainty of fluctuations in natural resources and competition among fishermen. The MSC was created to help establish a market that gives fisheries an economic incentive to manage and preserve natural resources. By certifying environmentally well-managed fisheries, the MSC differentiates non-certified from certified seafoods on the market.

This paper has focused on the MSC's history, purpose and current situation, and has reviewed past research on general ecolabeling, and summarized the factors for MSC implementation in Japan. Political factors, the complexity of Japan's fishery distribution system, the level of consumer interest, the high cost of certification and the peculiarities of the Japanese fisheries cooperative system are contributing factors to Japan's lack of certification cases to date. However, such barriers may be overcome as environmental awareness of consumers and industry increases. It is therefore strongly urged that Japanese consumer's preferences for ecofriendly seafood be analyzed and the results may reduce risks of investment in certifications for well-managed fisheries. Topics of research shall include: if consumers prefer MSC products in the actual market and what price premium consumers are willing to pay. Comparative analysis between Japan and another country (i.e. U.S. or Norway) would be interesting. Specific Japanese social and cultural factors influencing consumer choices should also be analyzed.

The MSC has corresponded to regional cultural differences for certification. The MSC's approach has been to allow the certification experts to interpret the Principles and Criteria corresponding to the characteristics surrounding the fishery being assessed. In that way, variation in regional environmental management practices can be evaluated on their merits. The stakeholder consultation process ensures a wide range of issues to be considered by the certifier. For example, in the case of the FSC, its standards and regulations provide generic outlines for forest certification recognizing the importance of regional flexibility and application.

Furthermore, environmental NGOs will be a driving force in promoting dialogue among citizens, industry and government.

Notes

- i) Increased competition due to bearing the ecolabel is limited to voluntary labeling. Regulatory enforcement would make the differentiation of ecolabeled products impossible.
- ii) Klabbers' (1999) analysis on forest certification shows ten factors preventing non-tariff barriers.
- iii) Higashida's (2002) model shows an inducement that can lead to environmental degradation.
- iv) According to Kajiwara (2003), none of the anticipated price premiums for FSC-certified products or economic incentives for the certified producer were found (Ozanne & Vlosky, 1997).
- v) For the relationship between safety and consumer behavior in the Japanese fishery market, see Yamashita (2003).

References

- Anonymous (2001) Fishy Maths. *Economist*, 360 (8235).
- Blend, R.J. and E.O. van Ravenswaay (1999) Measuring Consumer Demand for Ecolabeled Apples. *American Journal of Agricultural Economics*, 81: 1072-1077.
- Caswell, J.A. and E.M. Mojduszka (1996) Using Informational Labelling to Influence the Market for Quality in Food Products. *American Journal of Agricultural Economics* 78:1248-53.
- FAO (2004) Report of the Technical Consultation on International Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries. FAO Fisheries Report No. 760.
- Forsyth, K., D. Haley and R. Kozak (1999) Will Consumers Pay More for Certified Wood Products? *Journal of Forestry* 97: 18-22.
- Fujioka, N. (2001) Eco-labeling and WTO Agreement. *Journal of Agricultural Policy Research*. 1: 1-12. (in Japanese)
- Gundmundsson, E. and C.R. Wessells (2000) Ecolabeling Seafood for Sustainable Production; Implications for Fisheries Management. *Marine Resource Economics*, 15: 97-113.
- Higashida (2002) The Effect of Eco-labelling Program on Pollution Emission under International Duopoly. *The shogaku ronshu ; Journal of commerce, economics and economic history*, 71(1): 73-86.
- Ishii, H. and K. Kuriyama (1999) Research on the Trend of World Forest Trade and the Possibility of the Introduction of Forest Certificate. *Report for JSPS Grant-in-Aid for Scientific Research (C) in 1997-1998*. (in Japanese)
- Johnston, R.J., C.R. Wessells, H. Donath and F. Asche (2001) A Contingent Choice Analysis of Ecolabeled Seafood: Comparing Consumer Preferences in the United States and Norway. *Journal of Agricultural and Resource Economics* 26(1): 20-39.
- Kajiwara, A. (2003) *Forest Certification and Social Change: A Comprehensive Study in Japan*. RIEB Kobe University, Kobe.
- Katsukawa (2003) <http://cod.ori.u-tokyo.ac.jp/~katukawa/study/ecosystem/index.html>
- Kawabe, M. (2005) Green Consuming in Japan. *WWF Japan eco-fisheries report*. (in Japanese)
- Klabbers, J. (1999) Forest Certification and the WTO. *European Forest institute Discussion Paper* 7.
- Makino, M. and H. Matsuda (2005) Co-management in Japanese Coastal Fisheries: institutional features and transaction costs. *Marine Policy*, 29: 441-450.
- MSC (2004) MSC Asia Pacific Generic Presentation.
- MSC (2005) Press Releases: MSC welcomes FAO guidelines on marine eco-labelling (http://www.msc.org/html/ni_164.htm)
- Nimon, W. and J. Beghin (1999) Are Ecolabels Valuable?

- Evidence from the Apparel Industry? *American Journal of Agricultural Economics* 81: 801-811.
- OECD (1997) Private Certification of a Fishery as Sustainable Global Forum on Trade Case Study Documentation for the Workshop on Environmental Requirements and Market Access: Addressing Developing Country Concerns. ([http://webdomino1.oecd.org/comnet/ech/tradeandenv.nsf/viewHtml/index/\\$FILE/fisheries.pdf](http://webdomino1.oecd.org/comnet/ech/tradeandenv.nsf/viewHtml/index/$FILE/fisheries.pdf))
- Ozanne, L.K. and R.P. Vlosky (1997) Willingness to Pay for Environmentally Certified Wood Products: A Consumer Perspective. *Forest Products Journal*, 47(6): 39-48.
- Roheim, C.R. (2003) Early Indications of Market Impacts from the Marine Stewardship Council's Ecolabeling of Seafood. *Marine Resource Economics*, 18(1): 95-104.
- Sawada, M. (2004) *Economic Valuation of Food Safety*. Association of Agriculture and Forestry Statistics, Tokyo. (in Japanese)
- Shimura, S. (1996) Economics of Certification. In: V.M. Viana, J. Ervin, R.Z. Donovan, C. Elliott and H. Gholz, eds., *Certification of Forest Products: Issues and Perspectives*, Island Press, Washington D.C.
- Teisl, M.F., B. Roe and R.L. Hicks (2002) Can Eco-Labels Tune a Market? Evidence from Dolphin-Safe Labeling. *Journal of Environmental Economics and Management*, 43: 339-359.
- Tietje, C. (1995) Voluntary Eco-labelling Programs and questions of state responsibility in the WTO/GATT legal system. *Journal of World Trade*, 29: 123-158.
- USEPA (1998) *Environmental Labeling: Issues, Policies, and Practices Worldwide*, EPA Pub. No. 742-R-98-009.
- Veena, J., A. Markandya and R. Vossenaar (1999) *Reconciling Trade and the Environment : Lessons from Case Studies in Developing Countries*. Edward Elgar Pub, Northampton.
- Wessells, C.R., H. Donath and R. Johnston (1999) Assessing Consumer Preferences for Ecolabeled Seafood: The Influence of Species, Certifier, and Household Attributes. *American Journal of Agricultural Economics*, 81: 1084-89.
- 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.
- WWF (2005) MSC: promoting sustainable fisheries - Opportunities for All. (http://www.panda.org/about_wwf/what_we_do/marine/what_we_do/sustainable_fisheries/market/msc.cfm)
- Yamashita, H. (2003) Safety and Consumers' Behavior Relating to Fishery Food Products. *Japanese Journal of Fisheries Economics*, 48(2): 13-32. (in Japanese)

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