

DRAFT COUNTRY NOTE ON FISHERIES MANAGEMENT SYSTEMS -- JAPAN¹

1. Introduction

1. Japan is an island with approximately 70% of land covered by mountain forests and where arable space is limited. Fishing communities are located in all coastal areas nationwide. Food resources from the ocean have historically played a significant role in the Japanese diet. Even today, around 40% of protein consumed by Japanese people comes from sea food.² Ensuring the long-term sustainability of fishery resources is one of the most important policy objectives in Japan in the field of fisheries.

2. Japan's Fishery Today

2.1. Domestic Fishery Production

2. Japanese fishery production showed strong growth until the early 1980s. From 1972 to 1988, Japan's fishery production was the largest in the world with a peak output of 12 820 thousand metric tons in 1984. Since then, Japanese fishery production has steadily declined, and China and Peru have exceeded Japan in terms of the amount of fishery yields in recent years³.

3. Current production is about half its peak of the 1980s. One explanation is that the catch amount of sardine, the most productive species in the 1980s, has significantly decreased from 3 466 thousand metric tons in 1991 to 569 thousand metric tons in 2001, reflecting a large fluctuation in the amount of this fish resource⁴. The table below shows the changes in the catch of coastal, offshore, and distant-water fisheries.

¹. Submitted by Nobuyuki Yagi, Fisheries Agency, 1-2-1 Kasumigaseki, Chiyoda-ku, Tokyo Japan; Tel: (81 3) 35 91 56 12; Fax: (81 3) 35 91 68 67; Email: nobuyuki_yagi@nm.maff.go.jp.

² Figures are taken from the *Food Balance Sheet*: Ministry of Agriculture, Forestry and Fisheries, Japan. December 2002.

³ FAO (Food and Agriculture Organization) *FISHSTAT* data.

⁴ A cyclical fluctuation (roughly 50-year cycle) of annual catch of sardines in Japan are reported in the *Fisheries and Aquaculture Production Statistics*, Ministry of Agriculture, Forestry, and Fisheries, Japan. Details of the mechanisms of this fluctuation are yet to be proven, according to the *Annual Report on Fishery* (pp. 35), Fisheries Agency, Government of Japan, 2002.

Table 1. Domestic Production Volume

(in '000 tons)

	1975	1980	1985	1990	1995	2000
Distant-water fisheries	3 168	2 167	2 111	1 496	917	855
Offshore fisheries	4 469	5 705	6 498	6 081	3 260	2 591
Coastal fisheries	2 708	3 029	3 356	3 265	3 145	2 807
TOTAL	10 346	10 900	11 965	10 843	7 322	6 252
Import volumes ⁵	710	1 038	1 577	2 546	3 582	3 544

Source: Ministry of Finance and. Ministry of Agriculture, Forestry, and Fisheries.

Table 2. Domestic Production Value

(in billion JPY)

	1975	1980	1985	1990	1995	2000
Distant-water fisheries	470	572	683	444	277	212
Offshore fisheries	537	830	757	704	556	446
Coastal fisheries	7 667	1 200	1 273	1 414	1 252	1 104
TOTAL	1 774	2 602	2 714	2 562	2 085	1 761
Import volumes	386	764	1 176	1 608	1 721	1 734

Source: Ministry of Finance and. Ministry of Agriculture, Forestry, and Fisheries.

2.2. Import and Export in Fishery Products

4. Japan used to run a surplus on its exportation of fish and fish products. However, around 1975, Japan's exports and imports of fishery products equalled out in terms of quantity. In the years that followed, the import value of fishery products drastically increased. Possible explanations are (i) the yen became stronger against foreign currency, and (ii) import tariffs decreased as a result of WTO negotiations. Current average tariffs on fishery products in Japan is approximately 4.0% (weighted average).

5. Today, Japan is the world's largest importer of fish products. According to the FAO, 37% of the world's fishery production is exported, and Japan's imports account for one quarter of it. As Japan's export of fishery products is relatively small, the net import value (difference between exports and imports) in Japan has become quite significant.

Table 3. Changes in Japan's Exports and Imports of Fishery Products

	1975	1980	1985	1990	1995	2000
Imports ('000 tons)	710	1 038	1 577	2 546	3 582	3 544
Imports (billion JPY)	386	764	1 176	1 608	1 721	1 734
Exports ('000 tons)	603	727	786	703	240	222
Exports (billion JPY)	169	265	288	180	110	138

⁵ Detailed descriptions of Japan's imports in fish and fish products are shown in the following pages of this document. The amount of import is a simple sum of imported goods (mostly processed products), while the amount of domestic catch is the aggregated weight of unprocessed fish.

6. Japan is the world's leading importer of fishery products from developing countries. In 2002, 62%⁶ (JPY 669 billion) and 9% (JPY 30 billion) of its imported fishery products came from developing countries and least-developed countries (LDCs) respectively.

2.3. Current Status of the Domestic Market

7. The average price of fishery products at ten (10) central wholesale markets in large cities fell continuously over the decade from JPY 904/kg in 1991 to JPY 798/kg in 2001. It has been pointed out that price declines in tunas, salmon and pollock are attributable to the increasing imports of competing products.

2.4. Recent Conditions of Japanese Fishery Workforces

8. The number of new entrants on the fishery sector job market has continued to decrease, amid declining fishery incomes. The number of fishery workers fell from 370 000 in 1990 to 260 000 in 2000. The percentage of male fishery workers of over 60 years old increased from 28% in 1990 to 45% in 2000, indicating the ageing of the fishery workforce population.

Table 4. Changes in the Number of Fishery Workers in Japan

	1980	1985	1990	1995	2000
Male (age 15-24)	27 020	19 750	12 510	7 810	5 970
(age 25-59)	307 640	267 030	205 250	144 560	112 410
(age 60+)	67 540	69 950	85 600	94 840	97 720
Female	80 910	75 350	67 180	54 230	44 090
Total	457 370	431 880	370 530	301 430	260 200

Source: Annual report on fisheries dynamics statistics, Fisheries Agency

3. Japan's Fishery Management Regime

3.1. General Characteristics

9. Japan employs multiple layers of fishery resource management procedures. The Fishing Boat Law and other shipping related laws set the regulations on the construction, registration and inspection of fishing boats. The Fisheries Law stipulates the basic system concerning fishery operation. It provides rules and regulations for fisheries by establishing a (i) national licensing system, (ii) the prefecture governor's licensing system, and (iii) right based management system⁷. The Law Regarding Conservation and Management of Marine Living Resources provides provisions relating to the total allowable catch (TAC) system, total allowable effort (TAE) system and a basic plan for conservation and management of marine living resources in the exclusive economic zone (EEZ).

3.2. Vessel Registration System

10. The Government of Japan maintains the fishery vessel registration system, and the total number and the total gross tonnage of fishing vessels are closely monitored. Permission from national or regional government is required for construction, modification, and conversion of fishing boats of 10 meters or

⁶ 62% is a value based figure. An amount base figure is 60%. These calculations were made using import statistics in 2002.

⁷ Detailed explanations of the right-based management are given in the section on coastal fishery.

more⁸. For the construction or modification of a motorized fishing boat over 5 gross tons, government authorization must be obtained This is to inspect the compliance of the pre-permitted conditions.

11. Only registered vessels under this system can be used as fishing vessels. The information required for the registration are; (i) name, title, and address of the owner and user, (ii) name of vessel, (iii) gross tonnage, (iv) length, width, and depth of vessel, (v) body material, (vi) date of launch, (vii) name and location of shipbuilder, (viii) type and horsepower of engine, (ix) radio wave and other electric power information, (x) name of base port, (xi) type of fishery to be engaged in, (xii) reason for the registration (i.e., construction, acquisition, etc).

12. The number of fishing vessels has been continuously declining since 1980. The total number of registered fishing vessels in 1980 was 410 354. This figure dropped about 20% over two decades, to 337 600 in 2000. Significant capacity reduction has been observed in larger fishing vessels. The number of 10 ton or more vessels has been reduced to less than a half over the same period (see below).

Table 5. Number of Fishing Vessels in Japan⁹

	1975	1980	1985	1990	1995	2000
Vessels under 10 tons	327 978	380 763	380 896	367 051	346 945	323 868
Vessels over 10 tons	17 901	29 587	19 175	17 279	15 015	13 732
TOTAL	345 879	410 350	400 071	384 330	361 960	337 600

Source: Fisheries Agency of Japan.

3.3. National Licensing System

13. In Japan, the fishery licensing system directly controls fishing capacity for major fishery operations. The number of licenses are strictly limited and closely controlled by the government. The license specifies the name of the receiving fishing entity and one fishing vessel. Consequently, one fishing license corresponds to one fishing vessel. The license specifies detailed terms and conditions for the operations, including limitations on fishing areas, fishing seasons, base port, gear use, and fishing methods.

14. A national fishery license is required for fisheries to be operated on a nation-wide scale or in international waters. There are two categories in the national license.

15. The first category is the license for “Designated Fisheries (*Shitei-gyogyo*)”. These fisheries are:

- Offshore trawl-fishery using vessels over 15 gross tons,
- Trawl-fishery in the East China Sea using vessels over 15 gross tons,
- Distant-water trawl-fishery using vessels over 15 gross tons,
- Medium and large-size purse seine fishery using vessels over 40 gross tons,
- Distant-water tuna fishery using vessels over 120 gross tons,
- Offshore tuna fishery using vessels of 10-120 gross tons,
- Medium-scale salmon drift net fishing (only allowed in waters excluding high sea areas) using vessels over 30 gross tons,
- Squid jigging using vessels over 30 gross tons,

⁸. In the case of fishing boats of total tonnage of less than 20 tons (but 10 meters or more), permission from a prefectural governor is required for the construction, modification, and conversion of such fishing boats.

⁹ The figures shown here indicate the number of the registered fishing vessel with engine The actual number of operationable fishing vessels may be lower than these figuresbecause not all registered vessels are operationable (due to ageing, for instance).

- Saury fishery using vessels over 10 gross tons,
- Red snow crab fishery in the sea between Japan and Korea, and
- All types of whaling.

16. The second category is the license for “Permitted Fisheries (*Shonin-gyogyo*)”. These fisheries are:

- Snow crab fishery using vessels over 10 gross tons,
- Driftnet fishery in the sea between Japan and Korea and East China Sea (only allowed in waters excluding high sea areas) using vessels over 10 gross tons,
- Long-line fishery in East China Sea using vessels over 10 gross tons,
- Long-line fishery in the Atlantic ocean, and
- Bottom gillnet fishery in the Pacific Ocean.

17. For both categories, the Minister of Agriculture, Forestry, and Fisheries shall specify and publicly announce the types of fisheries that require licenses. The Minister is also required to publish the number of vessels, by gross tonnage and by operational area/season, to be licensed in each fishery.

18. When the number of applications for the licenses exceeds the pre-announced number, first priority is given to existing fishery operators using existing vessels. After this, licenses are issued through a lottery. In principle, licenses are valid for five years (this may be shortened), and licenses expire on the same day for all ships in the same type of fishery. A new license must be issued if a fishing boat sinks and another boat is used to operate fisheries or if permits are transferred to another person.

3.4. Prefectural Government Licensing

19. A prefectural license is required for fisheries operated in the regional (prefectural) scale on the offshore side of the area for fishing-right-based fisheries. The license is issued for each individual vessel with detailed descriptions on the terms of conditions for the operations. The Central Government determines the upper ceiling of the number of fishing vessels licensed by the Governors in order to set the upper ceiling of the overall catch effort either by the prefecture or by the local sea-area commission.

20. The prefectural-license fisheries are:

- Medium-sized purse seine fishery using vessels of 5-40 gross tons,
- Small-scale trawl fishery using vessels under 15 gross tons,
- Small-scale salmon drift net fishery (only allowed in waters excluding high sea areas) using vessels under 30 gross tons, and
- Trawl fishery in the Seto Inland Sea using vessels over 5 gross tons.

3.5. Traditional right-based management

21. Fishery management in coastal areas is based on traditional local fishery rights: a group of fishermen (fishery cooperative associations) traditionally assume exclusive rights for operating certain fishery and, thus, assume all the responsibility for long-term sustainability of resources. Although it does not provide an exclusive right per se over sea areas, a right to engage in fisheries is provided under limited conditions with regard to the fishing season, species and fishing methods.

22. The fishing right is non-transferable. Leasing of the rights is prohibited and there are restrictions on the creation of mortgage rights. The rights are authorized by prefectural governments through the licenses of governors. The governors may revoke or revise the fishery rights in the light of public interests. In this case, compensation shall be paid.

23. There are three types of fishing rights (*Gyogyoken*).

Joint Fishery Right

24. The first is the Joint Fisheries Right (*Kyodo-Gyogyoken*). This fishery is originally based on common ownership systems of local fishing grounds. The license is issued only to fishery cooperatives, in which at least two-thirds of members are engaged in coastal fisheries for at least 90 days in the areas. Members of the cooperative use the license on an individual basis. This type of fishery occurs in almost all areas throughout the Japanese coast. It is sub-categorized into shellfish collecting (Type I), small-type set-net fishing (Type II), beach seine (Type III), and fish attraction fishing (Type IV). In 2001, there were 6,702 licenses. The rules for implementation of fishing rights are determined by respective fishery cooperatives. A two-thirds majority consent from members of the cooperative (coastal fishers in the area concerned) is required to institute, amend or abolish these rules. Such rules typically include regulations on fishing season, the area, and gear use. The license is effective for 10 years.

Demarcated Fishery Right

25. The second type of fishery rights is the Demarcated Fishery Right (*Kukaku-Gyogyoken*). This is the right to engage in aquaculture. The main types of these fisheries are hanging culture, cage culture, seabed sowing cultivation in semi-inland sea areas. There were 10,103 licenses in 2001. Seaweed culture and cage culture are classified as special demarcated fisheries. Fishery cooperatives have the first priority of access to the special demarcated fishing rights (however, the operating entity of the fishery should not be fishery cooperatives but their members). Priority then follows to enterprises run by fishers, fisheries production associations, and ordinary fishers (individuals or corporate entities). Individual fishers have priority to other demarcated fishing rights. The fishing right for special demarcated operation lasts for five years, with other rights extended up to 10 years.

Set-net Fishery Right

26. The last of the three fishery rights is the Set-Net Fishery Right (*Teichi-Gyogyoken*). There were 1 876 licenses for set-net fisheries targeting for salmon, yellow tail, or others species in 2001. The first priority for receiving licenses is given to self-supporting fishery cooperatives that satisfy requirements such as strong dependence on fisheries. The second priority is placed on corporations, consisting of seven or more local fishers. Then, other candidates are considered. But priority is granted to those who belong to the local community and have previous experience.

Fishery Cooperatives

27. As noted above, detailed regulations for coastal fisheries are implemented through local fishery cooperatives. The total number of fishery cooperative associations is approximately 1,600 along the coast of Japan¹⁰. The fishery regulations introduced by the fishery cooperatives are based on the management policy set forth by the government.

¹⁰ Data provided by the JF-Zengyoren.

3.6. TAC and TAE

Total Allowable Catch (TAC) System

28. A catch control through the total allowable catch (TAC) system is implemented by the government for seven major fishery species (sardine, mackerel, jack mackerel, saury, walleye pollock, common squid, and snow crab). This system sets the upper limits of annual allowable catches for each fish species in the EEZ. Detailed scientific data on each species is required for the calculation of the TAC and, therefore, the adoption of this system for all the fishery species is not practical at this stage. Priorities for the selection of species for TAC management are (i) species that have high commercial value with tangible harvest levels nationwide, (ii) species that needs urgent resource conservation measures, or (iii) species that are potentially targeted by foreign fishing operations.

Total Allowable Effort (TAE) System

29. The total allowable effort (TAE) system, which sets an upper limit on the number of fishing days and the number of operating vessels in a specific area within the EEZ, was established in addition to the TAC system. Since the TAE system can be introduced even without detailed scientific data necessary to calculate the TAC, the TAE system is considered to be suitable for the management of species whose abundance is declining conspicuously or whose abundance level largely fluctuates depending on the oceanographic conditions or other natural factors.

3.7. Enforcement

30. Enforcement activities are duly conducted through vessel monitoring and inspections at landing sites. The government dispatches patrol vessels and aircrafts, both inside and outside of its EEZ, for monitoring and surveillance of fishing operations. Monitoring activities using VMS are also carried out in some fishing grounds.

4. Applications of the Management Systems to Specific Fisheries

4.1. Coastal fisheries

31. Coastal fisheries mainly target their catch at locally distributed fish stocks using fishing boats under 10 gross tons. Although the annual production amount of Japan's coastal fishery has been stable for a considerably long period of time (more than half a century)¹¹, ageing workforces and dwindling profitability caused by low fish prices have become eminent problems.

32. Coastal fisheries are subject to Japan's multiple layers of fishery management schemes, including fishery catch control by TAC, effort control by TAE, the prefectural government licensing system, and traditional rights based management.

33. Fishers are also active in implementing voluntary resource management including area/season closures, fishing gear restrictions, and so on. Wide varieties of species are traditionally harvested by these coastal fisheries, including small local stocks of fish, protochordates, echinoderms, molluscs, and arthropods. The traditional wisdom of small-scale fishers has been used to develop various types of local specific fishing gears and fishing methods. Although the traditional gears and methods employed by coastal fishery are costly and less efficient from a business point of view, they are most likely to be the best

¹¹ Figures inform the *Annual Fishery and Aquaculture Production Statistics*, Ministry of Agriculture, Forestry, and Fisheries, Japan.

methods in terms of ensuring long-term sustainable use of limited local resources. From a viewpoint of resource conservation, however, these regional small scale operations are less economically efficient and, in fact, the balance sheet of the fishing entities has deteriorated year after year.

34. The role of coastal fisheries in the remote local economy is rather significant. The number of people engaged in coastal fisheries is 220 000, or 85% of all Japanese fishermen¹². About 6 200 fishing villages exist along Japan’s coastlines, which extend 35 000 km. They are mostly distributed in geographically disadvantaged areas such as peninsulas and remote islands, and fisheries is one of the most important sources of revenue in these communities.

4.2. Offshore fisheries

35. Offshore fisheries mainly targets widely distributed fish stocks in Japan’s EEZ. They also employ multiple layers of fishery resource management schemes, including the vessel registration system, licensing system (both national and prefectural governor’s licensing), fishery catch control through TAC, and effort control through TAE.

36. The catch amount and the total number of boats used for offshore fishery, have been continuously declining for more than ten years.

37. Some of the offshore resources are shared with neighboring countries. Ensuring joint efforts among these countries for resource conservation on such species is one of the most important tasks in this fishery.

3.4. Distant-water fisheries

38. Distant-water fisheries mainly target their catch at internationally distributed fish stocks outside of Japan’s EEZ. They also employ multiple layers of fishery resource management schemes, including the vessel registration system, and licensing system (national licensing). The upper limit of the catch and other regulations of relevant fishery operations agreed at International fishery management organizations are incorporated into the national regulations.

39. The catch amount, and total number of boats used for, distant-water fisheries have been continuously declining for more than two decades. The main explanation is that Japanese distant water fishing vessels have been forced to leave their traditional fishing ground located in the areas of today’s foreign EEZs, after the establishment of a 200 mile zone regime under the UN Law of the Sea. Fishery operations in high sea areas also have been increasingly restricted over the last two decades, and this would constitute another reason for the dwindling trend of Japanese distant-water fishery.

40. Today’s major workforces for distant water fishery are tuna long-liners. Production of this fishery has, however, also been declining continuously, probably reflecting the resource depletions of tuna species in major fishing grounds, as noted by the FAO. International fishery management organizations for tuna introduced various new restrictions. Taking into account the depleted resource condition of tuna species, Japan reduced its pelagic tuna long-liner vessels by one-fifth in 1999.

Table 6. Production of Japanese Pelagic Tuna Long-liner Vessels

	1986	1991	1996	2001
--	------	------	------	------

¹² Calculated using data from the *Annual Fishery Dynamics Statistics*, Ministry of Agriculture, Forestry, and Fisheries, Japan

Production (in '000 tons)	229	180	164	156
---------------------------	-----	-----	-----	-----

41. IUU (illegal, unregulated, and unreported) vessels, which operate without observing international rules on resource conservation, are a cause for concern for this fishery. Not only do they put extra pressure on already dwindling fish stocks, they may drive out regular fishing vessels from the business. The operation cost for IUU vessels is considerably lower compared with regular fishing vessels, as IUU vessels do not incur the cost of observing fishery regulations and the health and welfare standard of its crew. Consequently, fish obtained from such IUU vessels are highly competitive in the international market. It should be noted that free trade of IUU products would only benefit the IUU fishing, through an unfair competition process.

42. To monitor and potentially deter IUU related products from international trade, catch documentation or statistical documentation schemes have been agreed at several international fishery organizations as conservation measures of several tuna and tooth fish species. Japan has implemented the documentation schemes to comply with these agreements. A positive list approach of non-IUU vessels has just been initiated for some tuna species.

5. Conclusions

5.1. Area(s) for Policy Challenges in the Context of Domestic Fishery Management

43. Historically, Japanese fishery management methods were based on input regulations such as (1) the creation of entry limitation to fishery operations, (2) the establishment of closed areas and closed seasons, (3) prohibition on specific gear use (including mesh size restrictions), and (4) restriction on size or horsepower of fishing vessels. This philosophy (i.e., fishery management is a synonym for input control) could be the key underlying assumption for the Japanese licensing system (for offshore and pelagic fisheries) and the right-based management scheme (for coastal fisheries). In the past, these input controls were the only practicable options since no systematic scientific research on stock conditions was available.

44. However, recent scientific progress allows higher levels of accuracy in resource management thanks to clearer comprehension of the status of fish stocks. At the same time, recent technological advance allows more efficient fishery operations so the effectiveness of the previously strict input controls has been nullified as a result of improved efficiency for per-unit operation. Under these circumstances, the government of Japan introduced a catch control through the total allowable catch (TAC) system for several major species in 1997. A total allowable effort (TAE) system was also introduced for the management of fish stocks whose abundance estimation is difficult to calculate due to inherent fluctuations of the resource level.

45. Consequently, TAC or TAE coexist with the traditional input control that uses the right-based management or the licensing system, in addition to the vessel registration system. It can be argued that these multiple layers of regulation impose additional operational costs to Japanese fishing entities and make Japanese fisheries even less competitive in the international fishery business. This is particularly true in the case of coastal fisheries, where costly and less efficient traditional local specific fishing management schemes are in place.

46. The lower efficiency of Japanese fishery, compared with high productivity levels of other major players in the international fishery community, is causing fundamental challenges for the Japanese fishery sector. In fact, the production volume of Japanese fisheries has been continuously declining since the 1980s, and there has been a further concurrent increase of the import of fishery products (although further

analysis is needed on the causal relationship between the production decrease and import increase in Japan).

47. We may conclude that a further policy challenge is to increase the domestic operational efficiency while maintaining a sufficient level of resource management.

5.2. An Area for Policy Challenges in the Context of International Fishery Management

48. As Japan is now the world's largest importer of fish products, importing approximately half of the domestic consumption, Japanese people have become more interested than ever before in the status of fish stocks in non-Japanese waters. Many people showed a positive interest in the report of the FAO, which says that the proportion of the world fishery resources, fully or over-exploited, has been increasing steadily by 40 points over the past three decades, culminating at 75% in 1999¹³. Reports of IUUs may have stimulated this situation. It is evident that there is wide consensus, among Japanese people, that sustainability of marine food resources in the global sense is the critical element in achieving national food security. 93% of Japanese consumers indicated in 2001 that a certain level of trade measures was inevitable for fish products harvested in a manner inconsistent with international fishery regulations.¹⁴

49. Finally, further efforts are needed, as the world number one importer of fish products, to make constructive contributions for the management of the world fishery resources through various regional fishery management organizations with a view to achieving long-term food security for human consumption.

¹³ "The State of World Fisheries and Aquaculture", FAO 2000 and "Review of the State of World Fishery Resources", FAO 1997

¹⁴ The result of a public opinion survey: conducted by the Statistics Department, Ministry of Agriculture, Forestry and Fisheries, Japan. Publicly released on October 29, 2001.