COMMUNITY-BASED FISHERIES MANAGEMENT

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ABSTRACT

Over the past 250years,Japanese fisheries regimes have developed with three fishery laws in sequence, in which a fishing right system has been commonly used.

During the feudal era until 1867, the fishing right was used mainly as a tool for the collection of fishery tax. The fishing right system established by an old fishery law (1901- 1947) was used mainly as a tool to reduce conflicts among different groups of coastal fishermen and disputes between coastaland trawl fisheries.

The current fishery law, enacted in 1949, refers to "Territorial Use Rights in Fisheries". It limits coverage to sedentary resources and non mobile gears. At the same time, the current law has rreateda system whereby a coastal fisheries management plan may be established with the participation of fishermen These innovations bavegiven fishermen a great motive to create a community-based coastal fisheries management system.

As a result, since the inception of the current fishery law in 1949, the number of fisheries management organizations created under the initiative of fish ermen has increasedyear after year and reached 1,524 in 1993.

1. INTRODUCTION

Japan has both marine and inland fisheries, the latter being insignificant in quantity and value.

The marine fishery is administratively classified into coastal, offshore and distant water fisheries, and the coastal fishery is further classified into coastal capture fishery and coastal aquaculture (Fig. 1 and Table 1). The coastal and offshore fisheries are those which operate in Japan's waters, i.e., her territorial waters and her 200 mile Exclusive Economic Zone (EEZ). The distant water fishery operates in the high seas and the EEZ of foreign countries. (For the definition of these fisheries, see the footnote of Table 1).

Table 1 sets out the economic structure of Japanese marine fishery, on the basis of 1991 data. The coastal fishery is the mainstay of Japanese marine fishery, accounting for 94% of the total number of fishing establishments. All of them are fishing households. In

terms of quantity, coastal and offshore fisheries produce 30% and 56% of the total respectively. In terms of value, the coastal fishery produces 55% of the total.

There is no internationally agreed definition for "Community-based fisheries management (CBFM)". However, in Japan it is understood that CBFM is a system of fisheries management run under the initiative of fishermen. Its activities cover the management of fisheries resources, fishing effort and fishing grounds. Management covers not only conservation of fisheries resources such as setting catch limits but also propagation of fisheries resources through marine ranching.

CBFM in Japan has been developed mainly for the coastal fishery and partly for the offshore fishery. Owing to the complexity of Japan's coastal and offshore fishery the quantity of fish caught and fishing gears employed, a variety of CBFMs are in operation.

2. CHANGE IN FISHERIES MANAGEMENT REGIME

Over the past 250 years, the Japanese fishery has been administered by regulative regimes, such as the "Ura" Law (1743-1867), Old Fishery Law (1901-l 948) and Current Fishery Law (1949) (Fig. 1). These three laws have used the concept of fishing right for different purposes.

2.1 "Ura" Law (1743- 1867)

Decreed by the feudal government in 1743, "Ura" Law was the first fishery law in Japan. Its objective was to ensure tax collection from villages by granting them fishing rights. A similar tradition existed before the "Ura" Law was enacted.

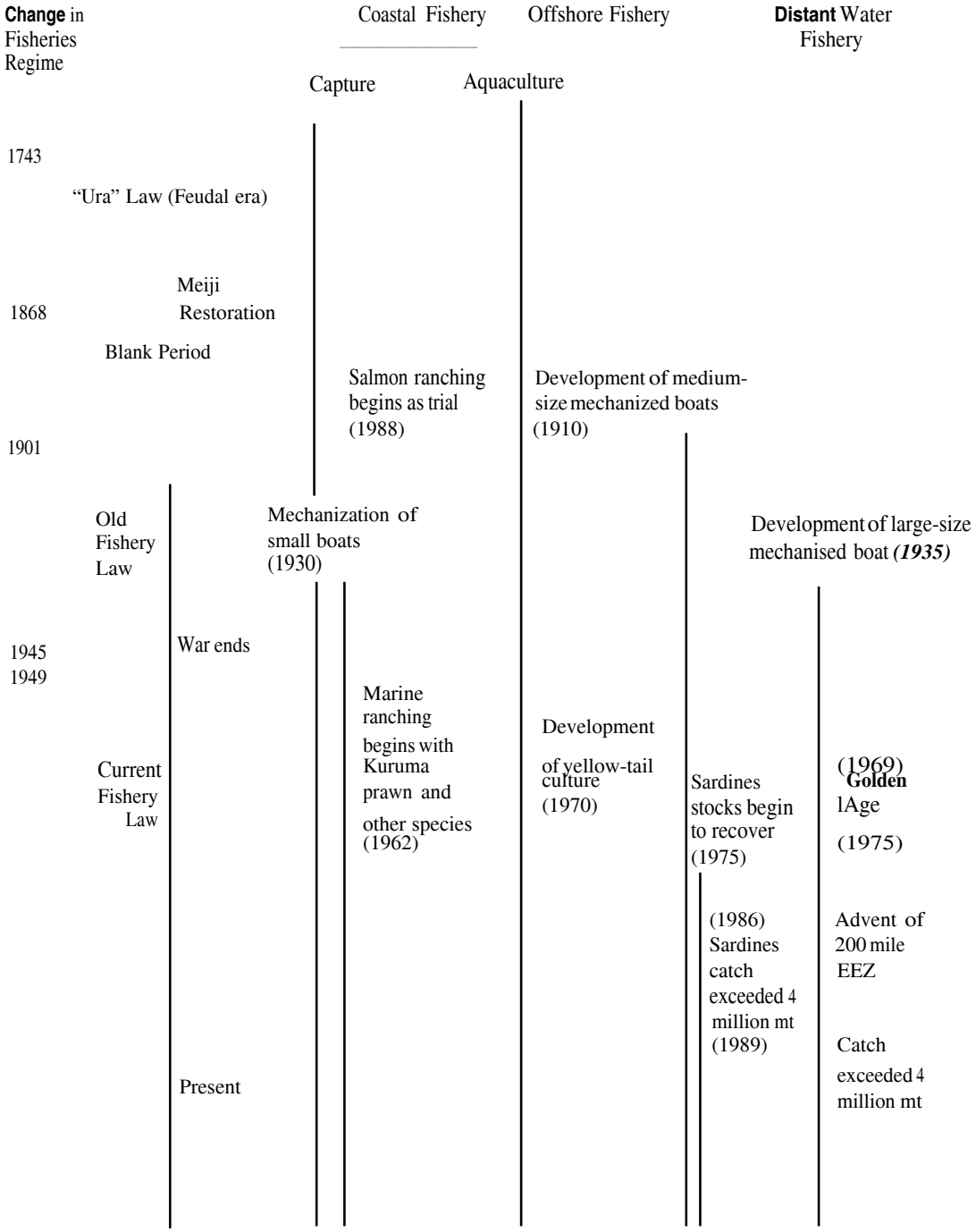
Under the "Ura" Law, all villages along the coast were classified as either fishing or farm villages. The fishing villages were granted an "Osumi-tsuki", a fishing right, that allowed villagers to fish in their sea area. Those living in farm villages were allowed to collect only seaweeds for use as fertilizer.

An Osumi-tsuki was sometimes awarded to an individual when he made a special contribution to a samurai lord. Such occasions, however, were the exception.

2.2 The "Blank Period" (1868-1900)

The feudal era ended in 1867, and the Ura law became invalid. The policy of the new government was to modernize every aspect of Japanese administration. A special fishery mission sent to Europe took note of fishery laws in France, Germany and England, but none of them suited conditions in Japan.

Fig. 1. Development of marine fisheries and regulatory **regimes.**



It took 32 years to get a new law in place. This period was one characterized by resource disputes between fishermen. Certain intermediate measures were taken without success.

2.3 Old Fishery Law (1901-1948)

This "Old Law" was formulated by the new government and approved by parliament in 1901. The "Old Law" was Japan's first own modern day legislation, as all other laws were modifications of European laws. According to the Old Law, fishing rights were classified into (i) exclusive fishing right (ii) set net fishing right (iii) specific fishing right and (iv) aquaculture right. It stipulated that exclusive fishing rights were to be granted only to a Fishery Society (FS). As a result, all fishermen in a fishing village had to organize their own FS. Otherwise, they were not allowed to fish (Fig. 2).

While the Old Law was being drafted, fishermen made it known that they wanted traditions and rights established by the samurai lords to continue. As a result, all Osumi-tsuki granted by feudal lords were converted into a coastal fishing right known as an Exclusive Fishing Right (traditional). However, the Old Law also created a category covering resources not covered by any of the exclusive fishing right (traditional). It was known as an Exclusive Fishing Right (new).

Owing to their importance, the central government was responsible for issuing both exclusive fishing rights. They were valid for 20 years and could be renewed. When the traditional right was renewed, its geographic area of coverage could not be expanded. Conversely, when the new right was renewed, in response to a request from a FS, the geographic area of the right was expanded seaward so as to cover migratory resources such as sardine, mackerel, squid, etc. Such an expansion of the new right took place in accordance with the progress of small boat mechanization. The new right had no restriction in terms of type of species and fishing gear to be covered.

The prefectural governments took charge of granting: (i) set net fishing right; (ii) specific fishing right for beach and boat seines; and (iii) aquaculture right valid for five years. These rights were granted to individuals who were capable of carrying out fisheries or aquaculture, and the fishermen's society was not.

With the introduction of medium-size mechanized boats, fishing gears such as otter trawl, pair trawl and Danish seine began to operate in near-shore waters, resulting in severe conflicts with coastal fishermen. This was an occasion when offshore fishery appeared in Japan. In response, the government introduced a restricted fishing license system within the framework of the Old Law. Closed areas for the trawl fishery were also established. Enforcing the new regulations required large expenditures by both the central and prefectural governments on patrol boats and inspectors.

Table 1. **Economic structure of Japanese marine fishery** (1991).

		Total	Coastal Fishery		Offshore Fishery	Distant Water Fishery
			Capture	Aquaculture		
No. of Fishing Establishments		175.444 (100)	128,903 (73)	36,95 I (21)	9,298 (5)	212 (0.1)
No. of Fishing Boats		277,949 (100)	253,149 (91)		22,235 (8)	2,565 (1)
No. of Fishermen		370,300 (100)	300,300 (81)		70.3 (19)	
Productior	1000 MT	10,843 (100)	1,992 (18)	1,273 (12)	6,081 (56)	1,496 (14)
	Billion Yen	2,562 (100)	805 (31)	609 (24)	704 (27)_	444 (17)

Source : Japanese Ministry of Agriculture, Forestry and Fishery.

Definition:

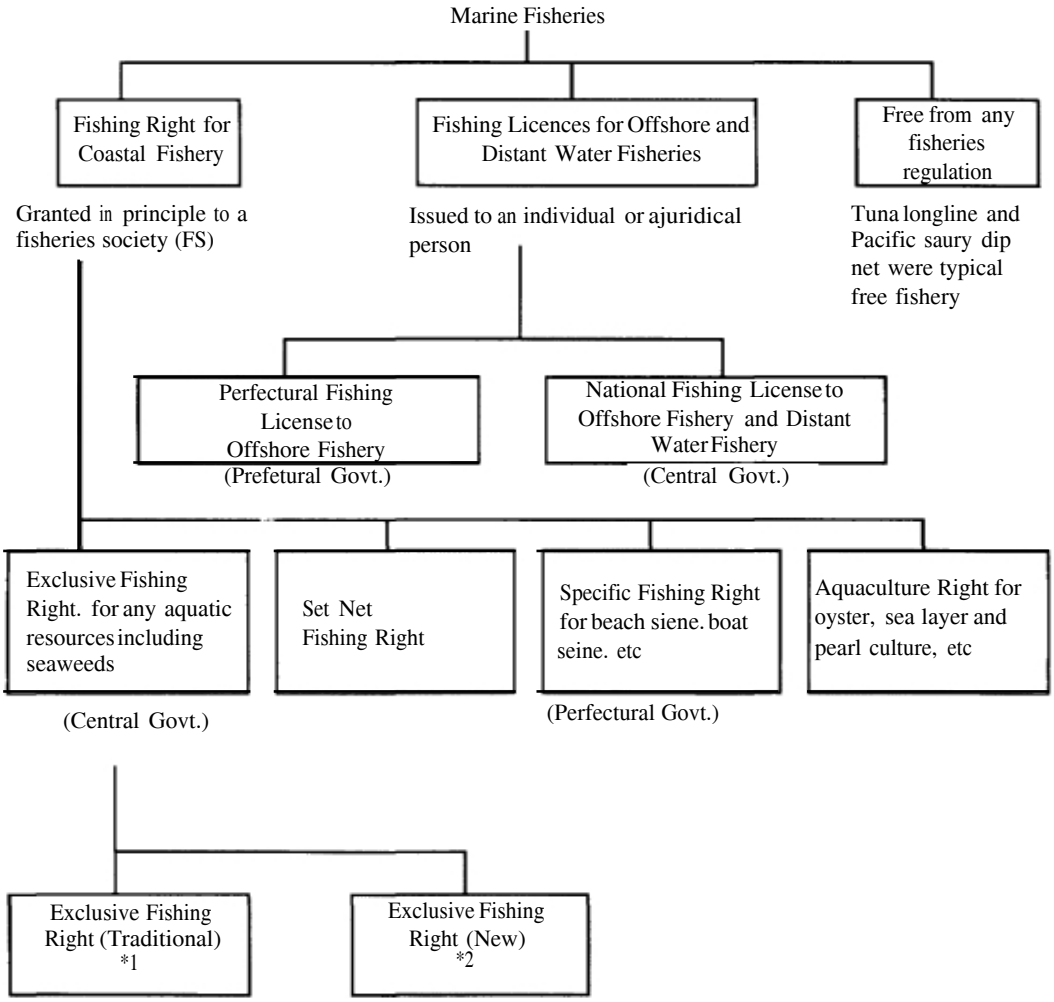
The coastal fishery comprises capture fishery or aquaculture operations which operate in coastal waters adjacent to fishing communities, using powered or non-powered fishing boats of less than 10 GRT. The coastal fishery is run by fishing households with their family members for the purpose of maintaining their livelihoods.

The offshore fishery is any capture fishery which operates in waters outside the coastal waters but within Japan's 200 mile EEZ, using powered boats of more than 10 GRT with many hired fishermen. This fishery is run by fishing enterprises, who pursue a profit.

The distant water fishery is also a capture fishery which operates in the high seas or the EEZ of foreign countries, using powered boats of mostly 100 GRT or above, with many hired fishermen.

A fishing establishment is any type and any size of economic unit, which engages in capture or aquaculture of aquatic animals and plants. However, 95% of fishing establishments are fishing households who engage in the coastal fishery.

Fig 2. Fishery regime based on Old Fishery Law (1901-1948).



-1 This was a right based on Osumi-tsuki' granted by a Samurai lord.
*2 : This was a right newly granted by the Old Fishery law.
Granting or issuing organization.

Japan is located in a temperate zone. A variety of resources is therefore being exploited by different groups of fishermen using different gears. Therefore, even among coastal fishermen there were many struggles for resources use. The trawl fishery brought about another type of conflict. The Old Law was more significant for reducing such struggles and conflicts among fishermen than for resources conservation. Nevertheless, granting the fishing right to the FS gave fishermen a perception that resources available in the sea area right off their own village were their own.

Around 1933, the country encountered a great recession. To help fishermen improve their incomes and living conditions, the government began to strengthen the fishery infrastructure and make available to FS facilities such as a fishing port, fish marketing hall, ice making factory, cold storage, etc. This gave an opportunity for many FSs to be involved in fish marketing, and change their status from guardian of fishing rights to a fishery cooperative association (FCA).

In the past, fishermen used to sell their catches directly to middlemen. This practice led to the exploitation of fishermen. Consignment sale of catch to FCA conferred many advantages on both FCA and fishermen. The financial status of FCA was stabilized, and the mutual reliance and solidarity of fishermen in a FCA was strengthened. These institutions were taken over by FCA which were newly reorganized after World War II. This may be one reason why CBFM under the initiative of fishermen developed smoothly in the postwar period.

2.4 Current fishery law (1949 Present)

After its military surrender during World War II, Japan was occupied by the Allied Forces for seven years, from **1945** to 1952. The Allied Forces sought to reform every aspect of Japan's administration and democratize it. A nation-wide land reform programme, implemented with a great success was a typical example. As a result, all landless farmers were able to own land.

In pursuance of such a policy, the Old Fishery Law was abolished and all fishing rights established by it were nullified. The government compensated those who lost fishing rights held under the Old Law with bonds that were redeemable in five years.

In 1948, all FSs and FCAs established by the Old Fishery Law were replaced by a Fisheries Cooperative Association (FCA) as required by passage of the Fisheries Cooperative Law. This law called for FCAs to be established in a democratic manner, for each coastal municipaliry. In 1949, the Current Fishery Law (Current Law) was promulgated, with fishing rights reformed. Then, within the new legal framework, fishing rights were granted to the newly organized FCAs.

Responsibility for granting rights was totally handed over from the central government to prefectural governments. The procedures established by the Current Law for granting fishing rights were so democratic that fishermen themselves began to feel that the resources covered by rights were their own. A community-based coastal fisheries management system was created. Further detail on this issue is discussed under Section 3 below.

3. THE CURRENT FISHERIES MANAGEMENT SYSTEM

A community-based coastal fisheries management system in Japan has been successful for two reasons. First, fishing rights reformed under the Current Law really conform to the principle of 'Territorial Use Right in Fishery' (TURF). Secondly, allocation of fisheries resources to FCA or fishermen is based on the Coastal Fisheries Management Plan (CFMP), which has been funded by a regional fisheries coordination committee in a very democratic manner (see Section 3.2).

3.1 Tools for fisheries management

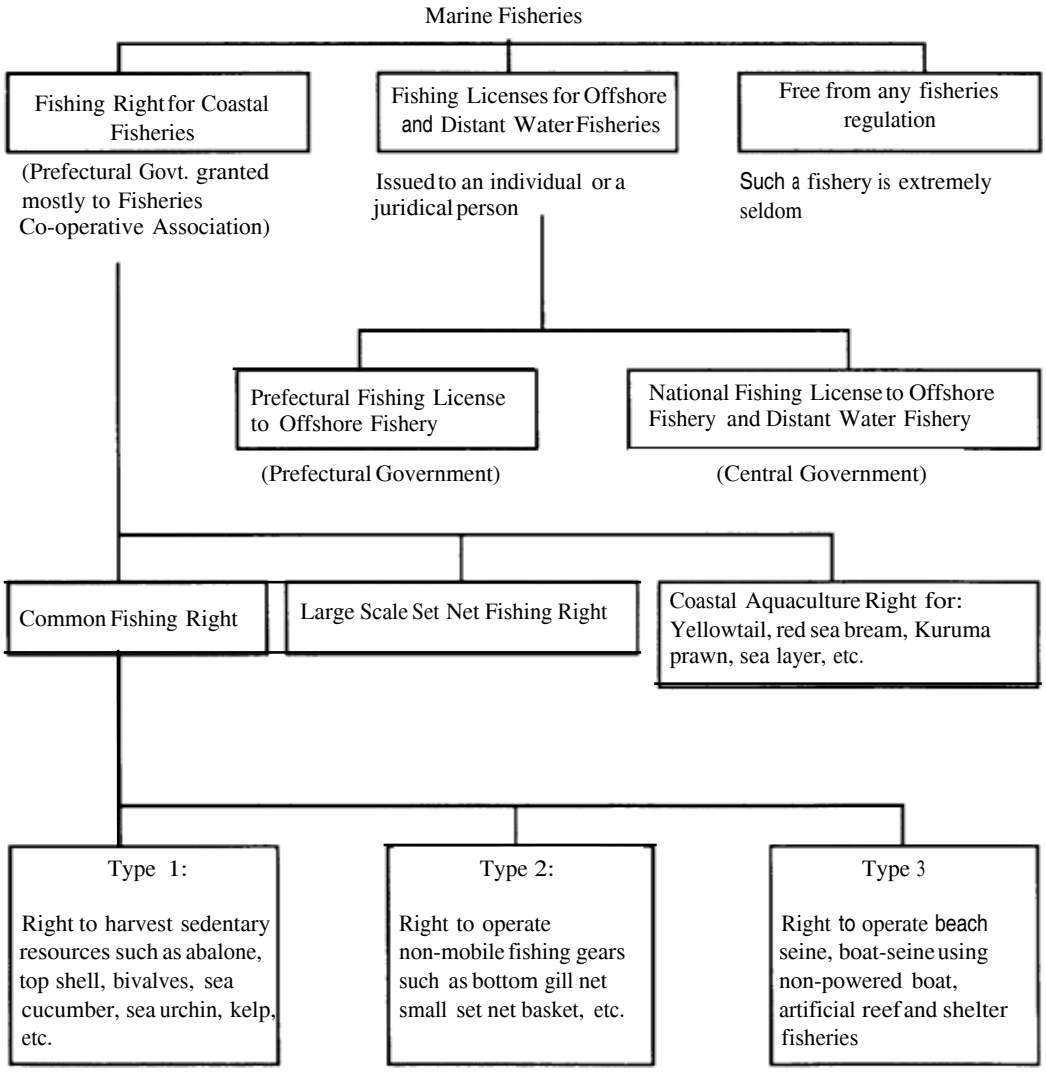
For the management of Japanese coastal fisheries, there are two tools in use; fishing rights for coastal fisheries and prefectural fishing licenses for offshore fisheries (Fig.3). In terms of international management methods, both fishing rights and licenses fall under the category of 'Limited entry'.

Fishing right (coastal fishery)

Under the Current Law, the fishing right is classified into: (i) Common Fishing Right (CFR); (ii) Large-Scale Set Net Fishing Right; and (iii) Coastal Aquaculture Right. Of these rights, the CFR corresponds to the exclusive fishing right under the Old Law, as it covers the entire sea area adjacent to the respective fishing village.

In comparison with the previous exclusive fishing right, however, resources covered by CFR Type 1 are confined to sedentary resources. Similarly, gears covered by CFR Type 2 and 3 are also confined to non-mobile gears. This was due to a policy that any migratory fish and mobile gears should be excluded from the CFR. In this way, the nature of CFR has been a TURF in a strict sense. As a result, the exclusive nature of the CFR lends a sense of proprietorship over the resources (Yamamoto, 1983). On the other hand, mobile gears which formerly figured under exclusive fishing rights have come under the management of the prefectural fishing license.

Fig. 3. Fishery regime based on Current Fishery Law (1949 - Present).



():Granting or issuing organization.

As for the large-scale set net fishing right and coastal aquaculture right, there has been no change in nature as compared with those under the Old Law. The validity of the right is ten years for the CFR and five years for the remaining two. As for the large set net and coastal aquaculture, changes in fish stock and the sea environment will sometimes necessitate a change in the location of these activities within a shorter period.

All three rights are granted to FCAs. However, the rights for large set net and coastal pearl aquaculture are sometimes given to individuals wherever the local FCA lacks the resources to utilize it. As was done in the Old Law, the Current Law regards these rights as property rights that cannot be sold or rented. It is also important to note that fishing rights in Japan are effectively area based (Christy, **1992).**

Fishing license(offshorefishery)

The system of fishing license under the Current Law is exactly the same as those established by the Old Law, having national and prefectural fishing licenses (Fig. 3).

The CBFM system in Japan has been developed, to a certain extent, by including some offshore fisheries which are regulated by prefectural fishing license. This is because offshore fishery operators are, in many instances, the members of a local FCA, who also think of a need to conserve resources exploited by them and establish their own fisheries management systems. Fisheries covered by such fisheries management systems are mobile gears such as baby trawl, boat seine, small purse seine, etc. which are not covered by any fishing right.

For gears under a fishing license, the fishing effort is regulated by the number of licenses issued, limits on vessel size and gear and through the opening and closing of season and area. A fishing license is normally valid for five years with a renewal. The license is transferable with certain conditions established for respective license.

3.2 Coastal fisheries management plan

Regional fisheries coordination committee and its role

The Coastal Fisheries Management Plan (CFMP) is a plan by which a prefectural governor grants fishing rights or issues fishing licenses. For the formation of the CFMP, FCA is requested to establish a Fishing Right Management Committee **(FRMC)** for drafting the contents of fishing rights. At the same time, the prefectural government is requested to establish a Regional Fisheries Coordination Committee (RFCC) to formulate the CFMP referring to the draft proposal on fishing rights from FCAs and other reference materials provided by the prefectural government (Fig. 4).

Fig. 4. Formation of Coastal Fisheries Management Plan.

(1) Draft Management Plan at FCA

i. Establish a fishing right management committee (FRMC) at FCA.
ii. Form FCA draft management plan indicating fishing rights FCA members wish, and submit it to the prefectural government (PG).

(2) Preparatory works by prefectural government

i. Form a Regional Fisheries Coordination Committee (RFCC) at a prefectural evel.
ii. Synthesize all FCA draft management plans at prefectural level.
iii. Collects materials needed for justification of the FCA draft management plans, and forwards the above materials, together with the original FCA draft management plans to the RFCC.

(3) Preparation of draft coastal fisheries management plan (CFMP) at RFCC

i. Prepares draft coastal fisheries management plan for the prefecture by referring to materials provided by the PG.
ii. Forwards the draft coastal fisheries management plan to the PG.

(4) Public hearing by the prefectural government

i. Announces of the public hearing on the draft coastal fisheries management plan through government gazette and any other means, and holds the public hearing.
ii. Obtain consent from RFCC if any change arose in the draft coastal fisheries management plan.

(5) Granting fishing rights

i. Official announcement of a final CFMP indicating the location of fishing area, species or type of gear and fishing season of all fishing rights.
ii. Granting fishing right by the prefectural government to the applicants in response to the application.

Note: This figure is drawn based on a manual prepared for the implementation of the Current Fishery Law.

a) The figure illustrares how the FRMC at FCA level and the RFCC are involved in the information of the CFMP relating to fishing rights.

b) The RFCC also acts as a consulting organization to the prefectural government in the formation of the CFMP relating to prefectural fishing license.

The RFCC comprises 16 members. Nine are elected from among fishermen, and seven nominated by the prefectural government. The seven nominees are people well acquainted with fisheries in the prefecture or who represent the broad public interest. Each member has a four-year term of office, and the chairman is elected from among the members.

Coastal fisheries management plan (CFMP)

To assist a clear understanding of fisheries management in Japan, the fisheries management plan in the Shizuoka Prefecture is discussed below. A map and two tables are used to illustrate the number, location and types of fishing rights and licenses (Fig. 5 and Table 2.1 and 2.2).

Shizuoka is one of the 47 prefectures in Japan that face the Pacific Ocean. Spread out along its 200 kilometres of coastline are 36 Fisheries Cooperative Associations (FCAs) with approximately 27,500 full time and associate members. In 1392, they harvested 289,000 metric tones (mt) from marine fisheries (the fresh water harvest was 10,000 mt). The offshore fisheries accounted for the largest part of the catch, about 175,000 mt. The distant water catch was 75,000 mt, and the coastal fishery provided another 33,000 mt. Coastal aquaculture produced 5,000 mt.

The Shizuoka fishing fleet in 1992 numbered over 7,300 boats. Most (94%) were under 10 Gross Registered Tonne (GRT). In other words, the fleet was made up for the most part of small boats appropriate to the coastal and offshore fisheries.

Of the four components of Shizuoka's marine fishery, only the distant water fishery is regulated by the central government. The coastal and offshore fisheries and coastal aquacul ture operations are under the jurisdiction of Shizuoka Prefecture and its Coastal Fisheries Management Plan. The CFMP is divided into two parts. One part deals with coastal fisheries **and** aquaculture under the fishing right system, the other with fisheries under the prefectural fishing license system.

Common fishing rights

For the Shizuoka Prefecture as a whole, 20 common fishing rights have been established and assigned to 35 FCAs. For ease of illustration, a map of the western half of the prefecture is provided (Fig.5). The map shows that right C16, for example, was awarded to the Shizuoka City FCA only, while rights C 17, 18 and 19 were each divided among several neighbouring FCAs (Fig.5 and 2.2).

The seaward extent of common fishing rights ranges from 1 to 8 kilometres off the shore in the Shizuoka Prefecture. On occasion, a right is established in an area not contiguous to the shore (see C 19 in Fig. 5). This usually occurs when sedentary resources are found

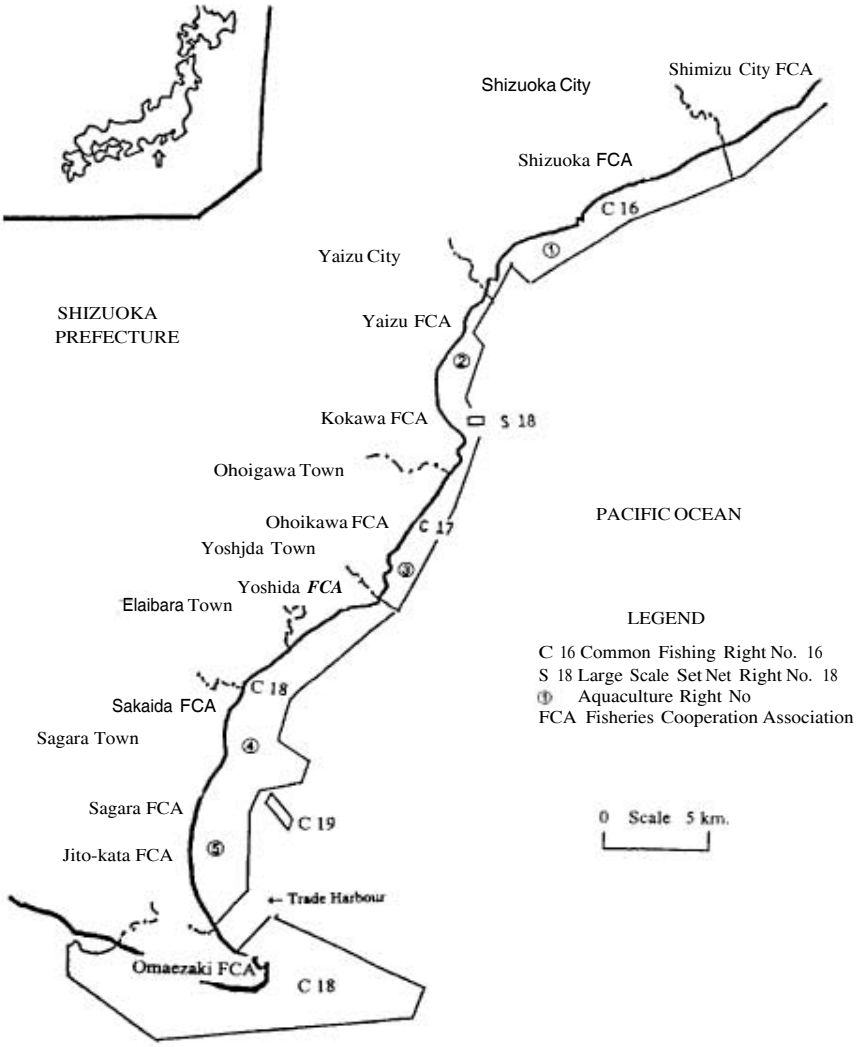


Fig. 5. Coastal Fisheries Management Plan (Fishing Right Allocation).

Table 2. Coastal Fisheries Management Plan, Shizuoka Prefecture (1993).

(1) **Fisheries under Fishing Rights**

	No. of Rights
Total	139
Common Fishing Right	20
Large Scale Set Net Fishing Right	18
Aquaculture Right	101

(2) Fisheries under Prefectural Fishing License

(These are boats operating in Shizuoka prefectural water)

	No. of Licenses
Total	2,937
Medium size purse seine	25
Small size purse seine	28
Baby trawl	123
Boat seine for anchovy, halfbeak, etc	1,351
Danish seine for sea bream	10
Mackerel scoop net	32
Stow net	216
Deep sea bottom gillnet	501
Small set net	87
Drive-in net	18
Other gears	546

(For Reference only)

(3) Fisheries under National Fishing License

(These are fishing boats based at Shizuoka Prefecture but operate in sea area far away from Shizuoka Prefecture with licenses issued by the central government)

	No. of Licenses
Total	136
Distant water tuna & skipjack fishery	69
Offshore tuna & skipjack fishery	25
Large scale purse seine	22
Saury pike lift net	9
Large scale squid angling	4
Overseas squid angling	6

Data source: Report of Fisheries Shizuoka Prefecture (1993)

near an offshore reef. There are also coastal areas, where no rights are granted. The map shows that right C 18 is divided by a trade harbor, an area that is unassigned.

In **(1)** of Table 2.2, it would be interesting to see exactly what species or gears are covered under each type of common fishing right. Not all assigned areas have the same harvesting rights. For example, Type 1 and 2 rights are always available, while Type 3 rights are not.

Large-scale set fishing right

In the western half of Shizuoka Prefecture, there is only one such right, number S 18. It has been granted to a private citizen (Fig. 5 and Table 2).

Coastal aquaculture right

There are five aquaculture rights in place on Shizuoka's western coast, located in a protected area near the shore. All of these rights have been awarded to FCAs (Fig.5 and Table 2.2).

Prefectural fishing licenses

The Shizuoka Prefecture has a fishing license system for 33 different gear types used in the offshore fishery. The number of licenses to be issued for each gear type is established in consultation with the Regional Fisheries Coordination Committee. Decisions are based upon data provided by the Shizouka Fisheries Experimental Station and fishermen themselves. Applicants for the license are usually members of an FCA and need FCA approval before submitting a license request to the prefectural govenor. This system makes it possible to harmonize the effort and harvests of fishermen operating under a fishing right with those who hold licenses. In 1993 there were more than 2,900 licenses issued (Table 2.1).

3.3 FCA fishing right management committee and its role

The FCA Fishing Right Management Committee (FRMC) has two roles. The first is to propose a FCA draft management plan to the prefectural government (see 1 of Fig. 4). The second is to establish a plan to make best use of resources or fishing grounds allocated by the fishing rights and granted by the prefectural government.

This FRMC itself may propose CBFM at the FCA level. There may be a case that a group of fishermen who were allowed to collect abalone may establish their own CBFM. It should be mentioned that in Japan the government has never guided fishermen/FCA to create their CBFM system, although there were campaigns guided by fisheries economists

and the National Federation of Fisheries Cooperative Association (ZENGYOREN), which took place in the latter half of the 1970s and early 1980.

The Current Law has fostered a community-based management approach, with fishermen participating through the fishing right management committee and any other organization.

4. DEVELOPMENT OF CBFM IN JAPAN

Until 1987, CBFM had been known only on a case by case basis. The 1988 fishery census, for the first time, succeeded in enumerating all fisheries management organizations in operation as of November 1, 1988 (Hasegawa Miyazawa and Yamamoto, 1992). The 1993 fishery census again did the same.

The census defined CBFM as having three basic components, i.e., management of fishery resources, fishing effort and fishing grounds. Fishermen's groups involved in any elements of those three components with or without written rule were, for the purpose of the census, defined as Fisheries Management Organizations (FMO).

4.1 Findings from the 1988 Fishery Census

The 1988 Fishery Census identified 1,339 FMOs throughout the country. The census tried to count the number of FMOs by year when organized. As a result, there were 30 by the end of 1948, right before the Current Law was enacted and 871 FMOs between 1949 and 1976. Another 394 appeared between 1977 and 1988. There were 44 FMOs, for which the year of their establishment was not known.

Of 1,339 FMOs, 1,004 FMOs (75 %)were established on the basis of fishing rights, and 294 FMOs (22%) were established with reference to prefectural fishing license. Surprisingly, another 17 FMOs (2.8%), were established without reference to either fishing rights or fishing license.

Of 1,339 FMOs, 1,017 FMOs (76%) were concerned with the management of sedentary resources such as abalone, top shell, spiny lobster, sea urchin and clam. In addition, 229 FMOs (17%) were involved with migratory species such as Kuruma prawn, mantis shrimp, red sea bream and flat fish. Thus, it can be said that for the moment, most FMOs have been involved with sedentary resources.

About 70% of the FMOs are involved with managing fisheries resources, and over 90% help manage both fishing grounds and fishing effort.

For the management of fisheries resources, prefectural government, FCA and even FMO have established their own fisheries regulations or rules. In many instances, FMO rules are more stringent. For example, the FMO minimum size for abalone is much larger than required by either prefectural or FCA regulations. Many FMOs are involved in monitoring fishing grounds and have the authority to fine or suspend violators. They assess stocks and set catch limits and monitor pollution.

Over 60% of FMOs are engaged in marine ranching and about haIf that many in fishing ground enhancement (e.g., artificial reef, man-made spawning grounds).

They share in the costs and are subsidized by the central and prefectural governments through the FCAs. Both governments also subsidize pollution monitoring efforts.

The 1988 census found that a large majority of FMO members think that community-based management has been successful in reducing both competition for resources and conflict among fishermen. Most thought that catches had stabilized due to FMO management in general and its reduction of fishing effort in particular. This sense of co-operation extends to a system of catch pooling in 11% of FMOs, and, after predetermined costs are deducted, the proceeds are distributed equally among fishermen.

4.2 Findings from the 1993 Fishery Census

For the period from 1988 to 1993, the number of FMOs increased by 185 (14%), and rose from 1,339 to 1,524. The total number of fishing households that participated in any FMO in 1993 was 69,985, or 43% of the total. This means that nearly a half of fishing households are involved in CBFM.

Of 1,524 FMOs, 452 (30%) were FCA, 598 (39%) were fishermen's groups, which have already been established for each different gear within the FCA, and 314 (21%) were fishermen's groups, which were newly established for the purpose of fisheries management.

Number of FMOs counted by target species were 121 for Bastard halibut, 122 for flat fish, 103 for red sea bream, 359 for prawn, 352 for sea urchin, 547 for abalone, 35 for top shell. Thus, in comparison with the results of the 1988 fishery census, the number of FMOs targeting migratory species is likely to have followed an increasing trend. On the other hand, the number of FMOs counted by type of gear employed were 216 for baby trawl, 312 for gillnet, 587 for the collection of clams and seaweeds and 252 for other gears.

5. CONCLUSION

For the success of CBFM, fishermen must regard the resources as their own. The 1983 FAO Expert Consultation on the Regulation of Fishing Effort has suggested that property rights can take many forms including individual catch quota, "TURFs", etc. When fishermen consider the fish stocks as their property, they will adopt a more positive attitude to conservation and management measures (1983, FAO). The 1949 revision of Japanese fishery law has led to alteration of the characterization of Japanese fishing rights and brought it close to TURFs by limiting its coverage to sedentary resources and non-mobile gears. This has led fishermen to a more positive involvement with CBFM.

In many FCAs, marine ranching is being intensified at the cost of FA or by sharing the cost among fishermen. Marine ranching also gives fishermen a perception that fish released are their own, and this will increase the chances to create a CBFM system.

For the creation of CBFM, both (i) a fishery law which is the legal framework for the award of fishing rights and issue of licenses and (ii) fishermen's organizations are indispensable. While new fishing rights were being granted by the Current Law, new FCAs were already in existence with good solidarity among fishermen. This has facilitated the creation of a community-based coastal fisheries management system.

For the creation of a new CBFM system, a mutual agreement among fishermen is indispensable. Such an opportunity may best occur at the fish market hall of the FCA, where daily sale of the catch of fishermen takes place. This will enhance the chance of fishermen to create an idea of CBFM. Such a fish marketing system with auction will strengthen the financial stability of the FCA, as commission charged to each catch sale will be the constant income of FCA (Hirasawa, 1992).

It may, however, be argued that the absence in the size of sustainable yield in many FMOs is a weak point in Japan's CBFM system. In recent years, however, fishermen are trying to have MSY/TAC with the help of the prefectural fisheries experimental station.

Some people attribute the success of CBFM development in Japan to a long history of fishing rights. In a country without such a history, fishermen may not accept a fishing rights system, and hence there will be no chance to develop CBFM. However, during my recent visit to Thailand in December 1993, it has been assured that fishermen do believe in the concept of ownership of resources although the fishing rights are not legally endorsed. There is, therefore, a possibility of developing a CBFM system for Thailand.

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