

COMMUNITY-BASED FISHERIES MANAGEMENT SYSTEM UNDER A LIMITED ENTRY

by

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ABSTRACT

In the present paper, the meanings of open access and limited entry and various ways of fisheries management systems are illustrated. Further, the meaning of community-based fisheries management system (CBFM) and its place out of various fisheries management systems is clarified. Japanese experiences reveal that the CBFM can be developed, only when fishermen conceive that fisheries resources are owned by them. Such a circumstance appears, sometimes after the government granted fishing rights to fishermen. Granting fishing rights to fishermen could be the best opportunity for fishermen to establish their own organization, although it may be a primitive one at its initial stage. Right to fish and the functions of fishermen's organization must be legally supported by national laws. Revision of national fishery law is a MUST for all Asian countries in the development of the CBFM.

1. Introduction

In the majority of south-east Asian countries, marine fishery is composed of a dual structure, i.e., (i) artisanal fishery which has been in existence for many centuries and (ii) industrial fishery such as trawl, purse seine fisheries which developed after the World War II. The artisanal fishery is performed to gain income to maintain the livelihood of a fishing household, and it is normally carried out by their family members. Conversely, the industrial fishery is undertaken to pursue a profit, and because of the size of boat in use, it is undertaken with hired crew.

In Asia a serious conflict has happened between these two fisheries, as the industrial fishery tends to come into the coastal waters, which have been utilized for many centuries by the artisanal fishery. This has led to the depletion of coastal fisheries resources. In several countries like Malaysia and Thailand, a costly national patrol boat system has been established to eliminate such a conflict. In a certain country like Indonesia, a trawl fishery has been totally banned. Yet, conservation of the coastal resources and improvement of income of artisanal fishermen are great issues to the governments in Asia.

Recognizing the above situations, a matter of small scale fishery was taken up at Kyoto Session of the Indo-Pacific Fisheries Council in 1980. However, so far adequate institutions, in both legal frameworks and fishermen's organizations, to overcome such situations have been hardly developed. As a result, little progress has been achieved with regard to the management of fisheries resources in both coastal and off-shore waters.

The reason is due to a open access regime, which has been still followed by almost all countries in Asia even though the most of resources have been fully exploited.

The present paper aims at providing some ideas with respect to the development of a coastal fisheries management system in Asian countries. During the course of his presentation, reference will be made to a paper entitled " Fundamental Difference in Fisheries Management between Japan and the Western countries", which is hereunder" abbreviated as "fundamental Difference",

2. Historical Development of Fisheries Management

Before taking up a matter of coastal fisheries management for Asian countries, how the fisheries management system has been dealt with at a global level.

Open Access and Limited Entry

For the use of fisheries resources by capture fishery, two regimes, i.e., Open access and limited entry are in use.

(1) Open Access

In many countries, fisheries resources are considered to have been owned by people. Therefore, anyone is allowed, without any permission from the government, to fish regardless of whether he is fisherman or not

Such a open access regime has been followed by the most of developed countries with the exception of Japan. Such a regime was developed during a period of medieval era in England. As many developing countries were once the colonies of present developed countries, the open access regime has been followed by these countries as well.

Under the open access regime, the government establishes many fisheries regulations to let fishermen to keep the TAC system. Fishermen must comply with these regulations. However, fishermen always try to fish as much as possible by offending the regulations. Then, the government has to control fishermen to eliminate these irregularities. Naturally, the management cost becomes extremely expensive. Under such a situation, fishermen will never conceive that fisheries resources are their own.

The open access regime is not always clearly mentioned in any official document of those countries. One may feel strange that the United States did not have a national law of fishery, until the Magnuson Act was enacted in 1976. This means that a fishing in the U. S. was completely free for anyone.

(2) Limited Entry

The use of fisheries resources for fishery is allowed to limited persons, who are normally fishermen. In Japan, the limited entry regime has been strictly followed for several centuries. It is also followed to some extent by the Republic of Korea and China (Taiwan).

Strictly speaking, the limited entry regime has been applied to some extent in some other countries other than Japan, Korea and China (Taiwan). However, in many instances these are exceptional cases for these countries. For example, Alaska has a fishing license system for salmon fishery, by which the state intends to eliminate the entry of fishermen from other states.

Under the limited entry regime, fishermen are granted right to fish with the fishing right or fishing license. Naturally, fishermen began to conceive that resources being exploited are their own, as no other person is allowed to fish in water area, where they have a right to fish. This will give a great incentives to fishermen to create their own fisheries management system.

Classification of Fisheries Managements Systems

Various type of fisheries management systems have been developed in the world, as seen in Fig. 1.

The list of fisheries managements systems as given in Fig. 1 was originally prepared by R. B. Rettig for a FAO Expert Consultation on Fisheries Management in Rome, January 1983. The consultation lasted for ten days with the participation of experts from the developed countries. Of ten days for the consultation, discussion was focused to 1. Catch limit and 2. Indirect method. There was little discussion for 3. Restricted fishing license, 4. Monetary measures and 5. Fishing right. It may be well imagined that the type of fisheries managements followed by developed countries are mostly confined to catch limit and indirect methods, which are only ways which can be followed under the open access regime.

In the original list prepared by Rettig in 1973, there were no IQ/ITQ. IQ/ITQ was first developed in Iceland and was followed by New Zealand. Now, it is extensively applied in many developed countries. It can be adopted in a country, where the boat is large in size, the number of boats is limited and landing ports are also limited. Yet, it has many practical problems. IQ/ITQ can not be applied to Asian countries.

Change in the Way of Fisheries Management System

By referring to the papers prepared by some world leading specialists in fisheries management, Fig. 2 was prepared to see how they changed their focus in the way of fisheries management, so as correspond to a marked increase in the world fishery production, which might result in over-fishing.

Fig. 2 indicates that in countries which follow open access regime, in the earlier time, the type of fisheries management system suggested were not strict. However, with an increase in the world catch, catch limit has received the top priority. In general, Fig. 2 reveals the following :

- (1) When Scott wrote his paper in 1961, there was no mention on catch restriction. When Christy wrote SOFA in 1967, 'catch restriction' had stayed at the fifth rank. However, when Rettig prepared his paper for FAO Consultation in 1983, 'catch restriction' had already shifted to the top rank.
- (2) In 1983 there was no IQ or ITQ. However, in 1991, IQ and ITQ was highlighted due to various difficulties arisen from TAC system alone.
- (3) In 1961, Scott had already got an idea of 'sole ownership', by which resources management could be handed over to fishermen's organizations. When he came to Japan in 1994, he found that his idea has been well realized in Japan under the limited entry regime.

3. Community-based Fisheries Management

A term, 'community-based fisheries management' was used for the first time at FAO/Japan Expert Consultation on the Development of Community-based Coastal Fishery Management System for Asia and the Pacific, which was held in Kobe 1992. One year prior to this Consultation, Japan International Fisheries Research Society (JIFRS) sponsored an international seminar on fisheries management in collaboration with National Federation of Fisheries Cooperative Associations (ZENGYOREN). In those days it had been considered that the community-based fisheries management system (CBFM) is a kind of fisheries management system, which was created by fishermen under their own initiative.

The FAO expert consultation, which was held in Kobe, 1992, did not discuss anything on the definition of CBFM. In those days another term 'co-management'(CM) is often used in many papers dealing with coastal fisheries management. To avoid any confusion on the meanings of these two terms, Fig. 3 was prepared by referring to the report of another FAO Expert Consultation, which was held in New Zealand, January 1995.

The above report says that from an institutional viewpoint, 'Self management' (SM) may be considered as totally self-imposed voluntary management without any legal coverage imposed by the government. On the other hand, CM may be a management system to be practiced by fishermen (and /or fisheries organization) and government together. With these meanings, both SM and CM will fall under a category of the CBFM system.

Now it may be noted from Fig. 3 that Japanese definition of CBFM as referred above corresponds to SM. However, Japanese CBFMs may not always be SM. According to the results of the 1993 Fishery Census, some of Japanese CBFMs are more close to CM mostly with the participation of provincial government. In contrast to CBFM, most of fisheries management systems developed in countries in Europe and north America follows a catch limit system established by the government, which is called 'institutional management) as seen in Fig. 3.

In Japan, the CBFM has been extensively developed after 1949, when her national fishery law was thoroughly revised and fishing right and fishing license were newly granted in the utmost democratic manner by taking into account fully the ideas of fishermen concerned. Initially, the CBFM was developed for sea area right off a fishermen's cooperative association (FCA). However, nowadays some of them have expanded its sea area to the whole sea area off a certain prefecture. In 1988, the total number of such CBFMs accounted for 1339, which increased to 1524 in 1995.

In fact, Japan's CBFM system was developed only after 1949, when Japan's fishery law was revised. For the detailed reasons, the readers may wish to refer to my paper entitled 'Fundamental Difference' at its section, 3.1 at page 72, 73, and 78. However, marine ranching, which developed after 1970, is thought to be another reason for the development of CBFM in Japan, as fishes released into their waters are also considered to be their own resources.

4. Prerequisite for the Development of CBFM

To realize CBFM there are three prerequisites to be considered.

Granting Fishing Right to Fishermen

In Japan a fishing right is granted to a fisheries cooperative association (FCA), which is organized by fishermen only. The fishing right is valid for ten years. Upon its expiration, it is renewed without or with slight change due to change in availability of fisheries resources. The fishing right in Japan is not always an exclusive fishing right entitled to make all resources available in the sea area of the right. (For the detail, see Table 1.1, 1.2 and 2 of my paper 'Fundamental Difference".)

A fishing license is granted, in limited number, to an individual fisherman, who engage in off-shore or distant water fisheries. Since the fishing license is issued to limited fishermen, the fishing license is also a fishing right. The fishing license is

never granted to persons other than fisherman. It is normally valid for five years, and it is renewed for another five years as long as the resources are well maintained. (For the detail, see Table 3 of my paper " Fundamental Difference".)

Thus, in Japan a fishery is allowed to only fishermen. Only under such a limited entry regime, fishermen conceive that fisheries resources being exploited by them are their own property. Then, fishermen create their own CBFM. Normally, CBFM is realized some years after the fishing right is granted to fishermen. In the meantime, to let fishermen understand the importance of CBFM, some campaigns by the government institutions or NGOs would be quite useful.

Fishermen's Organization

For granting the fishing right, fishermen's Organization is absolutely essential, However, there are two obstacles to do so. One is that fishermen's organizations have been hardly developed, and the other is absence of any cooperative law exclusively devised for fishery.

(1) Development of fishermen's organization

In general, fishermen's organization is not always well developed in Asian countries, and the extent of its development varies from country to country. At least, what one can say is that there have remained many fishermen, who are not member of fishermen's organization. Even when a fishermen's organization exists, it is not sure whether it is suitable in size and in nature for granting fishing right.

The minimum conditions for establishing an unit of fishermen's organization (FO) may be defined by two factors, i.e., land area of the FO and the total number of fishermen, who are supposed to be the member of the FO. A FO should have a sufficient sea area in front of its land area, in order that it may have a reasonable size of fishing area for a fishing right. Another factor is that a FO should have at least more than 200 fishermen as its members. Otherwise, it may not be able to involve in efficient economic activity.

How to let fishermen to organize into any sort of their own FO is another important issue, as the fishing right is to be granted to a FO only. For doing so, the best thing is to establish a legal framework, by which the fishing right will be granted to an organization established by fishermen. In this way, all fishermen will be automatically the member of a FO, as the fishing right is granted to the FO and a fisherman is not allowed to fish unless he becomes the member of the FO.

In fact, the above was the way, by which Japan's artisanal fishermen had to establish their own organization in 1901, when the first Japanese fishery law was enacted. In its earlier stage, Japan's fishermen's organization was merely a fishermen's society (FS), which was a guardian for the fishing right. Hence, the FS

had originally no function in doing any economic activity. With the progress of time and with the revision of fishery law, however, some of FSs began to involve in fish marketing and other economic activities.

In around 1930, Japan encountered a serious economic recession, which greatly affected the economy of both agriculture and fishery households. To activate the economy of fishery households, the then ministry of agriculture and forestry established a rehabilitation programme for fishermen, through which fishery infrastructure such as fishing harbor, fish marketing shelter, ice making plant, etc. were provided to many fisheries societies. With these government aids, the then fisheries societies were converted into fisheries cooperative associations in real sense.

(2) To make Fisheries Society as Cooperative Association

In Japan, there is a fisheries cooperative law exclusively designed for fisheries. This may not be a case for many Asian countries, as a single cooperative law, which is applied to any sector of the national economy. Under such a situation, it would be a solution that a fisheries society which was established for the fishing right will be registered as a cooperative association under a cooperative law.

In this way, a same group of fishermen will have two functions One is to take care of fishing ground and resources based on the fishing right, and the other is to be involved in fish marketing, ice making, credit and saving business, etc. for the benefit of the member fishermen.

Revision of National Fishery law

For promoting the above two tasks, there may be no question that the Present national fishery will have to be revised in order to make it a limited entry regime Without legal support, the fishing right can not valid at all

In the revised fishery law, there must be a strict fishing license system to control the industrial fishery in terms of the number, sea area for capture, the size of boat and gear and so forth. Without such a strict fishing license system for off-shore fisheries, no coastal fisheries management can be successful.

5. Conclusions

It is the author's dream that CBFM system in Asian countries will be developed with the following process:

1. Revision of National Fishery Law, which includes all ideas as discussed in 4 above.
2. Establishment of fishermen's organization, on the condition that a fishing right is granted to them.

3. Formulation of a fisheries management plan in terms of fishing right and fishing license at local level (provincial level) with a view to make harmonious use of fishing grounds and fisheries resources available in sea area right off a province. (For the detail, see 3.2 of my paper " Fundamental Difference".)
4. Granting fishing rights and fishing licenses based on the fisheries management plan
5. CBFM may occur some years after the fishing right was granted.

Fig. 1 Type of Fisheries Management in Use in the World

1. Catch Limit

Under the open access regime, catch limit is a management system, which has been adopted by the most of developed countries.

1.1 TAC alone

For every fishing season, total allowable catch (TAC) is determined based on MSY. There is no restriction for new entry to fishery. Hence, TAC alone will result in increase in the number of fishing boats and over investment, which will eventually lead to the depletion of resources.

1.2 IQ or ITQ

Under individual quota system (IQ), parts of TAC are allocated to individual fishermen as a quota. In this way, increase in the fishing capacity of a boat or in the number of fishing boats can be prevented. Under individual transferable quota system (ITQ), the quota is allowed to sell to others.

2. Indirect methods

Fishing is restricted by means of :

- Fishing season
- Fishing area
- Fishing gear, e.g., mesh size restriction
- Size of fish

Indirect methods are used under both open access and limited entry regimes.

3. Restricted fishing license

Fishing license is issued to individual fishermen in limited number. Normally, the size of boat, fishing area and harbor to land catch are restricted.

The fishing license system is applied mainly under 'Limited entry regime'.

4. Monetary measure:

- i. A tax is imposed to fishermen, when a fishery has to be discouraged.
- ii. A subsidy is given to fishermen, when a fishery has to be encouraged.

The monetary measures are seldom applied.

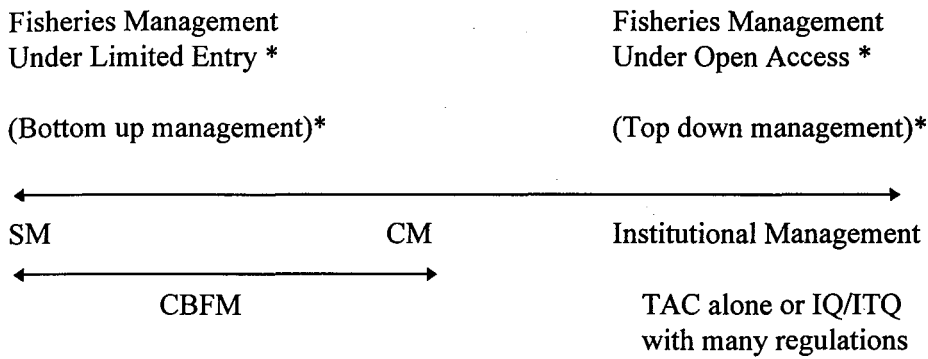
5. Fishing Right (Territorial use right, fishery)

Fishing right is granted to fishing community, fishermen's society, , etc. under 'Limited entry regime'.

Fig. 2 Historical Change in the Way of Fisheries Management System

Year	1961	1967	1983	1991
World Catch In Million MT	37	60	76	98
Author	Anthony Scott	F.T. Christy	R.B. Rettig	R.B. Rettig
Name of Meeting/ Fisheries Paper	FAO Meeting on the Economic Effect of Fisheries	1967 FAO State of Agriculture (SOFA)	1983 FAO Expert Consultation on Fisheries Management	JIFRS Seminar on Management
Venue	Ottawa	Rome	Rome	Tokyo
Open Access	1. Closed area	1. Minimum size	1. <u>Catch restriction</u>	1. <u>Catch limit</u>
	2. Closed season & <u>Catch quota</u>	2. Closed area	2. Indirect Control :	2. IQ or ITQ
Limited Entry	3. Restriction of fishing gear	3. Closed season	Fishing season	3. Indirect control:
		4. Fishing gear	Fishing area	Fishing season
		5. <u>Catch restriction</u>	Fishing gear	Fishing area
		6. Effort control	Minimum size	Fishing gear
			Minimum size	
Limited Entry	1. Fishery tax	There was no mention, although monetary measures and license were hinted.	1. Restriction of fishing fleet by license	1. Restriction of fishing fleet by license
	2. Fishing license		2. Monetary measures.	2. Monetary measures.
	3. <u>Under Sole Ownership</u> , Fishermen's organization or public institution will be resources manager.		3. Restriction by fishing right	3. Restriction by fishing right ←(TURF)

Fig. 3 An Overview of Fisheries Management



SM : Self management
 CM : Co-management
 CBFM : Community-based fisheries management

(Note)

Institutional management means that fisheries management is practiced based on various regulations established by the government.

(Source)

"APPENDIX 1 to WG 1 Report" to the Report of the Expert Consultation on Guidelines for Responsible Fisheries Management, Wellington, New Zealand, 23-27 January, 1995, FAO Fisheries Report No. 519.

However, for easy understanding the author added some annotations for the parts with * marks.