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## The Evolution of Joint Fisheries Rights and Village Community Structure on Lake Biwa, Japan

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It is common knowledge among students of sea tenure that the Japanese system has been adjusted, more or less successfully, to the drastic socio-economic changes that have occurred in Japan during its modernization process. However, little information on the Japanese case has hitherto been available in western languages. Based on a wealth of historical documents and complemented by a field survey, this paper provides one concrete example of tenurial types and their evolution in Lake Biwa, the largest inland water body in Japan. Although a lake, Lake Biwa has been historically regarded for administrative purposes as a "little sea." The origin and maintenance of the lake's sea tenure system and the ways in which social units limit access and defend their rights are treated. The concept of "legitimation logic" is presented and exemplified to elucidate the reasoning and justification for right-holding.

### INTRODUCTION

Sea tenure is commonly understood in maritime anthropology to be a culturally bounded configuration with social, political, economic, ecological and psycho-perceptual aspects [CASTEEL and QUIMBY 1975]. In Japanese coastal fisheries, there exist varieties of sea tenure systems each of which evolved from time-honored local traditions. Lake Biwa, the largest lake in Japan, is no exception to this process. Although Lake Biwa is an inland water body it has been perceived of as a "sea" since ancient times, and is treated as a "sea area" according to the *Fisheries Law*. The way in which the lake's water space is divided among the surrounding villages and the tenurial institutions that have developed are in no respect different from these along the Japanese coast. They may therefore be treated as an ecological distinct type of sea tenure.

Under the direct and indirect influence of nearby Kyōto, the political and cultural center of Japan until the 17th century, Lake Biwa developed unique sea tenure systems. Further, abundant historical documentation concerning the lake's tenure systems survives for analysis. Lake Biwa is therefore one of the few locations in Japan for which the historical development of sea tenure systems can be traced and reconstructed.

In general, Japanese sea tenure systems originated long ago and have been

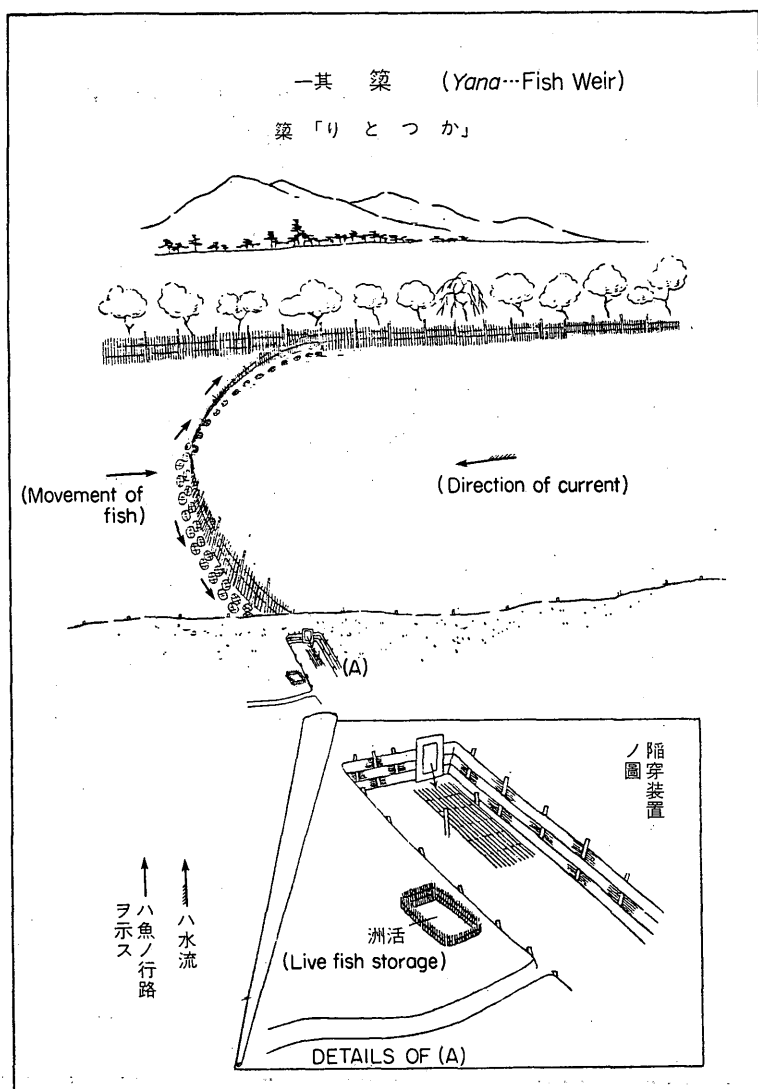


Figure 1. A Yana Fish Weir. Source: [SHIGA-KEN SUISANSHIKENJŌ 1911]

sustained over centuries. The Lake Biwa system is considered to be one of the oldest. Further, various traditional fishing techniques and right-holding institutions in the lake have continued uninterrupted since ancient times. For example, *yana* (weirs) (Fig. 1) and *eri* (set traps) (Fig. 2) have been the two most important fixed fishing methods used in the lake for more than a millennium.<sup>1)</sup>

1) A *yana* is set gear, with or without traps, that crosses a river. An *eri* is one kind of set trap unique to Lake Biwa. The basic unit of an *eri* is anchor-shaped and consists of three parts: straight "street", round "street" and final trap. The size of an *eri* varies from several meters to 2000 m. The simplest consist of only one final trap, whereas

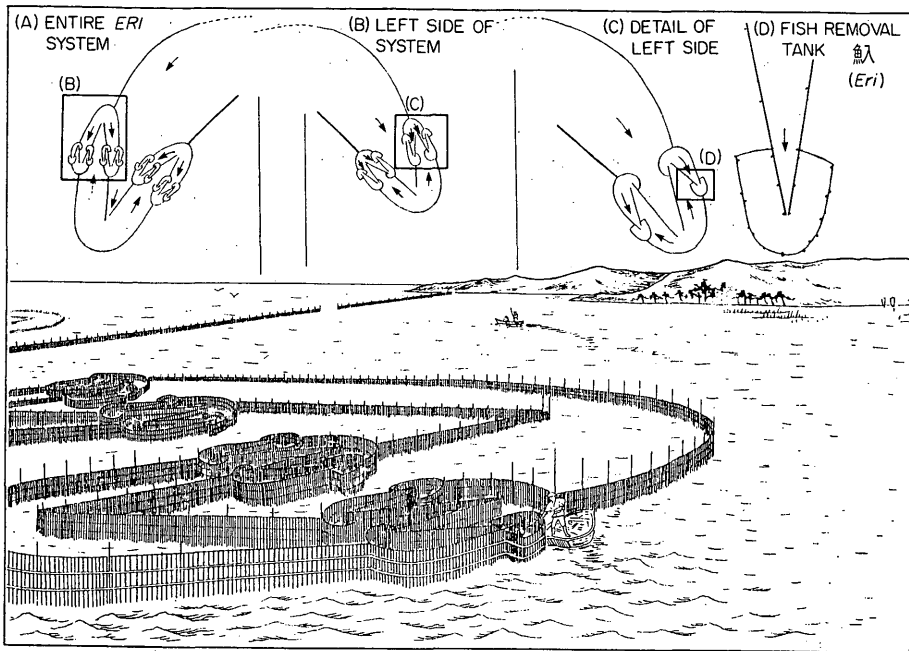


Figure 2. An Eri Trap. Source: [SHIGA-KEN SUISANSHIKENJŌ 1911]

This paper has three objectives. First, the historical development of the sea tenure system of Lake Biwa is outlined. Then the origin and maintenance of the system, the ways in which a particular social unit (individual, family, a group of people, or a village community) limits access and defends its own rights, is treated. Finally, the reasoning and justification for right-holding, called “legitimation logic,” is also examined. The principles and articles of Japan’s *Fisheries Laws* (1901 and 1949) are drawn from local customs: Japanese fishery law can therefore be seen as a kind of legitimation logic on a large formal level.<sup>2)</sup>

Sea tenure practices have not always been expressed explicitly, rather, in Japan, as in other cultures, they tend to be unwritten and covert. This is in distinct contrast with the land tenure system in Japan, which has been openly legislated from ancient times. Further, sea tenure customs are often taken for granted or are regarded as being merely commonsense by members of a particular group. In modern

complex ones consist of more than 20 traps. These long, multi-trapped *eri* were in frequent use before WWII. Mastering the technique of *eri* construction demands long experience and is inherited by members of a single community, Konohama, on the central eastern coast of the Lake.

- 2) Although the importance and the content of such concepts as “social justice” or “legitimacy” in analyzing peasant social structure has been debated among scholars of Southeast Asian studies [*e.g.*, SCOTT 1976; POPKIN 1979; PELETZ 1983], this paper will not enter the debate directly. Rather, it puts forward the basic types of relationship between fishery resources and their related social groups, for one Japanese water space, Lake Biwa.

Japan, the sea tenure practises of a particular group often differ from the letter of the law. A kind of "subjective legitimation logic" is evident in sea tenurial behavior, and it is imperative to understand it as it is applied to everyday life.

In order to analyze the complex structure of Japan's sea tenure systems, an intensive empirical field survey was conducted around Lake Biwa. This was complemented by an examination of formal (written) rules and laws. The field survey of Lake Biwa proved important to an understanding of the workings of sea tenure systems at the local level. The history and socio-economic background of each community is also analyzed as an aid to understanding current practises.

The second objective of this paper is to present the results of my field survey of five fishing communities surrounding the lake. The main purpose of this survey was to define the subjective legitimation logic (*i.e.*, fishermen's own perceptions about sea tenure) described above, and to analyze the extent and nature of the gap between written regulations and local customs. In particular, the survey focussed on an examination of access to fishing rights within the Fishery Cooperative Association (FCA) and of the "socially selective" nature of the rights. Village negotiations with higher level administrative units (*e.g.*, local and central governments) about fisheries rights are also examined.

The third objective, the question of resource conservation mechanisms, is discussed together with the historical analysis. Although Lake Biwa is institutionally treated and psychologically perceived as a "sea," the constraints of a relatively enclosed system have never been evaded, either consciously or unconsciously, by the people concerned. The changing nature of resource conservation mechanisms is the main focus taken here.

## HISTORICAL EVOLUTION OF THE LAKE BIWA TENURE SYSTEM

### 1. From the Ancient Period (8th–12th centuries) through the Middle Ages (13th–16th centuries)

As demonstrated by an abundance of archaeological remains, inhabitants of the shores of Lake Biwa exploited the lake's aquatic resources since pre-historic times. But naturally, institutions that regulated the use and allocation of resources in those far-off times remain a matter for speculation.

The earliest extant documents concerning fishing in Lake Biwa date from the 9th century A.D., when an unidentified emperor authorized privileged *yana* (weir) fishing gear to be set up where the Seta River flows out of the lake. These documents specify that a particular group of people (*kugonin*: lit. "court manager") be given exclusive rights to this fishing ground in exchange for an offering of fish or money to the emperor. During the Nara and Heian Periods (7th–12th centuries, A.D.), emperors granted rights to fishing grounds located at points where the Seta, Amano and Wani rivers either flowed into or out of the lake.

With the beginning of the manorial system of administration rights to the *yana* fishing grounds were no longer authorized by the emperor. Rather, they were grant-

ed by powerful shrines. Fishermen granted exclusive fishing rights in this period were called *kusainin* (lit. "celebrated manager"). Privileged rights to *eri* fishing grounds were also granted by shrines, the recipients also being known as *kusainin*. In return shrines received a share of the catch.

Those earliest of documented fishing rights were, therefore, applied only to set-gear grounds. During the Middle Ages, however, exclusive use rights to offshore grounds for netting and hook-and-line fishing began to appear in the historical documents.

There is little information about either social groups or economic conditions of the privileged fishermen during the Ancient and Middle Ages. But a few village (or town) communities have continued the basic social organization of privileged fishing groups until the present.

In addition to the privileged fishermen there was also "ordinary people's fishing" in the early period. For example, a document detailing a conflict between *kusai eri* ("celebration-offering" *eri*) and privately owned *eri* remains from the 13th century. From indirect clues, such as place-names dating from the Ancient Period, which contain the words *eri* or *yana*, other such evidence may be inferred. But as might be expected, documents pertaining to the sea tenure of the commoners are almost non-existent.

In the 16th century political leaders became the patrons of fisheries rights holders. Since the leaders of this period, such as the Ashikaga Shogunate or Oda Nobunaga, were striving for military control, they claimed warships, sailors and warriors as their due from rights holders, instead of the traditional fish or money. Katata and Okishima (an island village in the middle of the lake) are offshore fisheries settlements established as this type of privileged fishing community.

## 2. The Feudal Age (1600–1867)

With the start of the Edo Period, the feudal age in Japan, documentation on economic and social conditions becomes relatively abundant. These documents include cadastral survey records (sometimes containing fisheries tax data), temple records (religious and residential registration), village financial records, and so on, which indicate an increasingly centralized control of the nation's resources. Records concerning fisheries disputes also become abundant during this period and these provide the bulk of the evidence regarding sea tenure practises. Through these data the formulation of legitimization logic as it defines, delimits and defends fisheries rights, can be traced.<sup>3)</sup>

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3) In the documents of the Edo Period, the word of "*gyogyōken*" (lit. "fishing rights") never appeared. Instead "the right of using the sea," "the right of operation," "earning ground" or "entering the river (lake)," implying the multi-dimensional meanings of the fisheries rights, were the corresponding phrases.

LEGITIMATION LOGIC IN FEUDAL TIMES<sup>4)</sup>

The most frequently used legitimation logic to justify right-holding is tax payment evidence. The strong connection between tax payment (or corvée labor) and right-holding is evident in documents from all parts of Japan. Taxes were usually levied on fishermen or fishing villages (whichever was the holding unit) by the administrative units of the corresponding fishing waters. In the early Edo Period Lake Biwa and the adjacent rivers belonged to the Shogunate, thus taxes were levied by the Shogunate. But as the Edo Period progressed, rivers, lagoons and coastal waters were gradually transferred to the fiefs of local lords (*hanshu*, *hatamoto*, and the like) who levied taxes.

The unit of taxation varied, and included fishing grounds, fishing vessels, nets or catch size. Occasionally, a "bulk" rate was applied to each village territory. There was no standard way of assessing the fisheries tax, in contrast to the land tax. The amount tended to be higher if competitive use rights holders existed, which implies that the tax rate was influenced by the demand for the use rights of fishing grounds. Tax payments for the use of Lake Biwa fishing grounds had been made in the Middle Ages, but they were extended and made more obligatory during the Edo Period. This means that fishermen became part of the administrative class structure of feudal society. Fishermen were regarded as "peasants," as defined by Wolf [1966].

The second aspect of the legitimation logic of fishing rights is adjacent territoriality (*jitsuki*), by which use rights of coastal fishing grounds were divided according to the seaward projection of village boundaries. The cadastral surveys conducted from the late-16th to the early-17th centuries were crucial in determining village boundaries together with the assessment of taxes based on water space as well as land.<sup>5)</sup> However, the principle of "front waters to the adjacent village, off[shore] waters to the commons" was only applicable in some concessions in Lake Biwa, since some aquatic resources were in waters adjacent to a village were not made available to that village but were reserved instead to privileged groups. For example, usufruct of duck hunting in the entire South Basin of Lake Biwa and the southern part of the North Basin was held by Katata fishermen, and that of the western part of the North Basin was reserved to two other village groups. In addition, offshore use rights were exclusively reserved to Katata and Okishima. The privileges given to these villages by the Ashikaga Shogunate and Oda Nobunaga were effective throughout most of the Edo Period, although they had lessened by the late-18th century. *Eri* rights and shellfishing rights on the whole were allotted to the front village.

The third legitimation logic is the precedence of fishing rights. Throughout the

4) In methodological terms there exists two approaches to understanding the substance of norm, rule or "legitimation logic." One is the dispute or disorder approach and the other the regular status approach. I use the former owing to the limited data available on the everyday affairs of fishermen during feudal times.

5) Village boundaries established at this time are mostly still effective in present-day Japanese rural areas. They are used not only for administrative purposes (Fig. 5) but also in the residents' folkloric perception of their "livelihood space."

Edo period, "new" fishing, including the use of set gear as well as nets, was disallowed as a general rule. Here "new" fishing means not only newly introduced fishing gear but also the improvement or expansion of existing gear. The new, illegal devices were usually detected by Katata fishermen, and brought to court in Kyōto.<sup>6)</sup> As the use of new methods and improvements was generally forbidden, and the use of traditional methods, *yana* and *eri*, was strictly limited to privileged groups, the restricted nature of fishing rights and practices continued.

The fourth principle is rather ambiguous and hard to define, but will be called here the "subsistence principle." Phrases such as "we are poor and don't have any other way of making a living except by fishing" appear frequently in documents concerning fishing disputes. If applicants for fishing rights lacked rights by precedent or privilege, a subsistence petition was presented to the administrative authority. Some rights were granted on these grounds. Although no institutional distinction existed between *jikata* (farming villages) and *urakata* (fishing villages) around the lake, as occurred in many other parts of Japan, fishermen tended to come from the lower social strata, and so held little or no land.

Those four legitimization principles formed a rather complex structure, which varied according to locale. They can be ranked according to effectiveness as follows: tax payment and precedence were regarded as necessary conditions for the objective legitimacy of fishing rights, whereas adjacent territoriality and subsistence were rather weak grounds for the assertion of rights in Lake Biwa.

Five rights-holding social units existed in the Edo Period: 1) private individuals; 2) multiple members within a village community (a guild-like group); 3) a village community as a whole; 4) multiple members crossing community lines; and 5) multiple village communities. Different social units characteristically practised different types of fishing. For example, *yana* fishing grounds were usually held by a village community as a whole or by multiple members within a community. In a few instances *yana* were held by multiple members crossing community lines or by multiple village communities, but such cases were fiercely disputed, sometimes causing feuds which lasted for several generations. On the other hand *eri* fishing rights tended to be held either privately or by multiple members within a village, although there were a few cases of village communities as a whole holding *eri* rights.

The nature of fishing rights in Lake Biwa in the Edo Period, although once a controversial subject in academic circles [YAMAGUCHI 1948; NINOHEI 1962], was similar to a "right in rem," (against a thing, *cf. in personam*) which allows exclusive use rights as well as several methods of rights transfer; sale, rental, and pledging and/or inheritance. There was frequent rental of beach seine and *eri* rights. Sale of shares in *yana* or duck hunting grounds was also allowed on occasion. Inheritance between family members was the most widely accepted method of transfer. But strict and

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6) There are more than 100 records extant for the Edo Period dealing with objections or disputes raised by Katata fishermen. They cover the entire Lake, thus revealing the wide-ranging activity of Katata fishermen [KITAMURA 1946].



universal rules for the transfer of rights were not established during the Edo Period, in direct contrast to land tenure practises at that time.

#### RESOURCE CONSERVATION IN FEUDAL TIMES

There was little intentional resource conservation of the Lake during the Edo Period, except for restrictions on the size of mesh used in *eri* and the seasonal bans imposed by some villages during the spawning periods of important species. Conservation functions, however, were institutionally embedded in the sea tenure

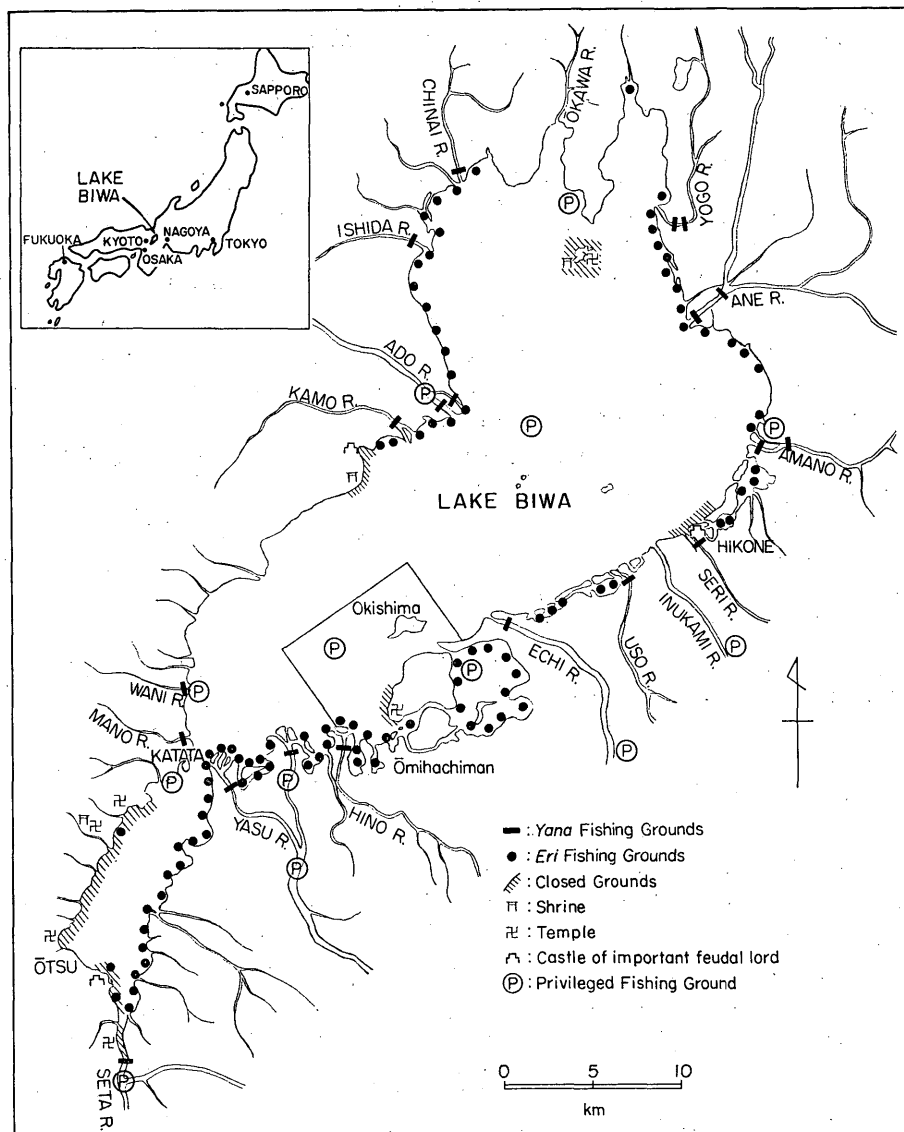


Figure 3. Lake Biwa Fisheries during the Edo Period

system. First, the principle of precedence functioned strongly to restrict the entry of additional fishermen, as well as limiting new fishing gear and even the improvement of existing gear. Thus rule was enforced by the fishermen of Katata (*vide supra*). Second, religious restrictions on the killing of animals also promoted the designation of closed grounds, which were ecologically important for spawning (Fig. 3). Third, a covert but important generator of resource conservation was closely related to the social practises of the communities surrounding the lake. This social order was based on two units: the family and the village. One of the most important basic socio-economic characteristics of the fishing villages, surrounding Lake Biwa during the Edo Period was that most families combined fishing with farming. They utilized farming methods adapted to the ecological and seasonal use of aquatic resources, including the application of fish, shells, mud and water plants as fertilizer. Inland from the lake extended relatively fertile farmland, except to the northwest, where rocky hills descend directly into the water.

#### SOCIAL ORGANIZATION IN FEUDAL TIMES

Edo village communities were strongly integrated internally. Each had its own village officials (*murakata sanyaku*: lit. "three village officers"), sub-units consisting of five families (*goningumi*), and the smallest unit, the family (*ie*). Each village also had its own financial administration (*muranyūyou*) for the support of public works and the payment of village officials. The required contribution to village finances was based on the social stratum to which each family belonged, with higher-status families paying more. The taxes levied for the village territory (including waters) were combined, and the village as a whole was responsible for payment. Thus, the village was a unit of asset-holders as well as a legal unit.

The family at that time was not merely a living unit, but also a socially-defined institution responsible for an assigned amount of production, tax payment and the training of members to participate properly in community life. Each family was ideologically a single, eternal entity that proceeded lineally from its ancestors through to its descendants. The family line could be passed on via blood members or through non-blood, with an adopted son in each generation. Only one person was permitted (and obliged) to remain and succeed the parental family, and primogeniture or ultimogeniture was prevalent. Additional sons were expected to be adopted into other lineages or to establish a branch family. Rights to land as well as fishing, or shares in them, belonged to the family, and were usually inherited by a single heir, thereby maintaining considerable stability over generations.

Those fundamental characteristics of village and family life have changed only slightly during the process of national modernization. Indeed, they still form the basis of present-day fishermen's attitudes (*vide infra*).

### 3. Modern Times (1867–present)

Although it is widely assumed that the sea tenure systems of the Edo Period

changed drastically with the Meiji Restoration (1868), the situation for Lake Biwa fishing communities is not entirely clear, owing to a lack of documents for extensive areas. It is possible, however, to infer from some historical documents that offshore net fishing by new entrants was met with the strongest objections, that *yana*-fishing was least objected to and that *eri*-fishing was only moderately-objected to.

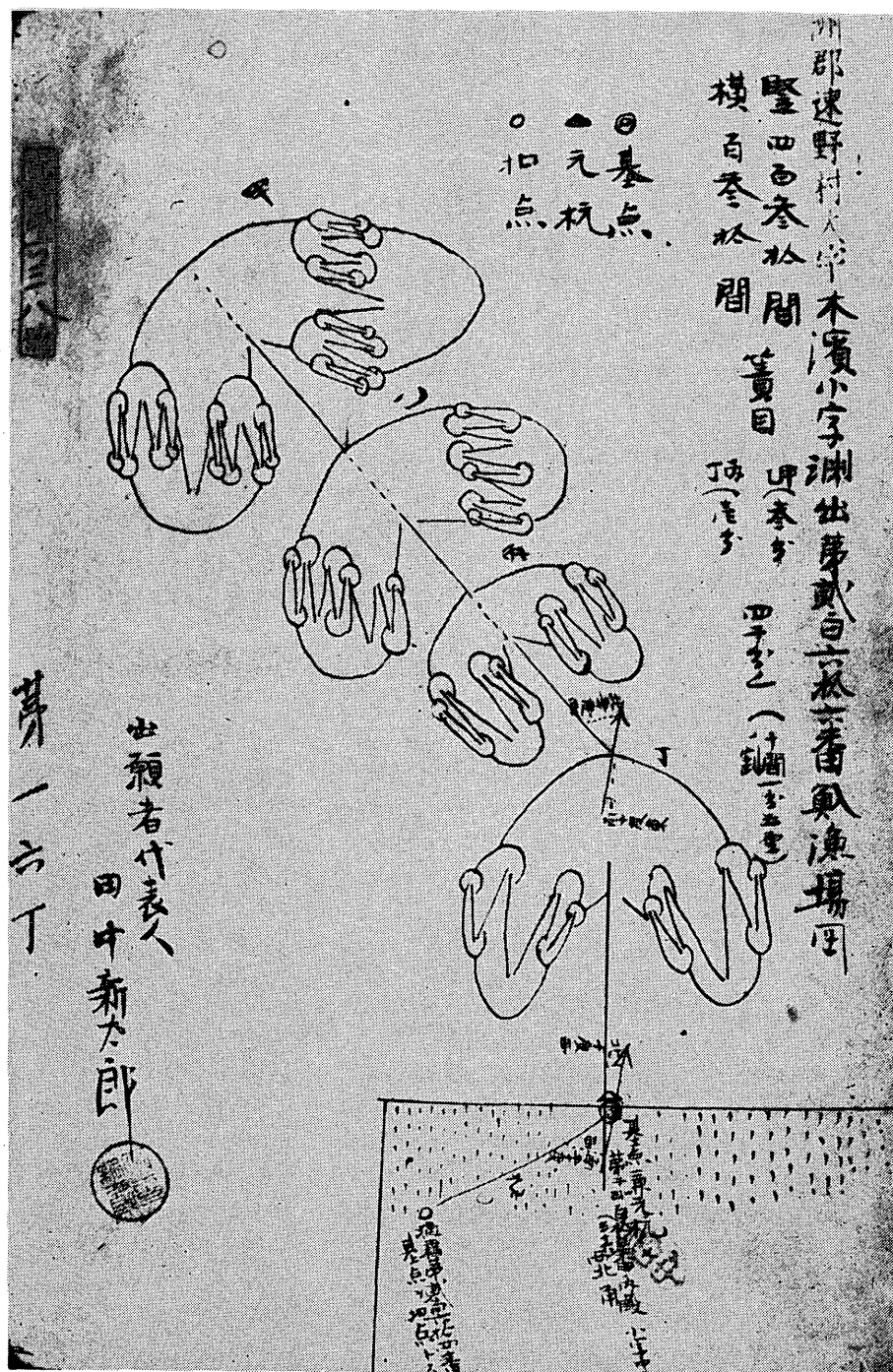
Throughout the modern period, fisheries administration in Japan has permitted considerable local or prefectural independence. Since the administration of Lake Biwa fisheries has been handled only by Shiga Prefecture, the level of independent decisions pertaining to regulations and their implementation has been high.

The first fisheries regulations of the modern period were promulgated in 1874, with amendments being made until 1884, when the basis of fisheries regulations was established. Fishing was divided into three categories: 1) set-gear fishing (*eri*, *yana*, and other small nets); 2) others, including net or line fishing; and 3) recreational fishing. Rights to the first category were given by the prefectural government exclusively to precedent-holders. Those to the second category were issued somewhat readily to applicants.

A feature unique to the fisheries administration of Shiga Prefecture at this time was the *gyoseki* (lit. "fishing ground registration") system. Beginning in the 1890s, the prefecture designated *gyoseki* areas for *eri* and *yana* fishing, based on precedent rights, and licenses were granted only for designated *gyoseki* areas. This system had two purposes; the prevention of fishing disputes and the preservation of aquatic resources. The point where fishing gear could be set was permitted to fluctuate within the area, but gear could not be set outside the designated area (and suspension of fishing operations for a certain period was also allowed by reporting to the administrative office). Thus, both *gyoseki* and a license were needed to operate *eri* and *yana*. This dual system is similar to the planned fishing ground system established by the *Fisheries Law* (1949) at the national level, and functioned to stabilize sea tenure over a long period.

Deliberate measures to prevent over-fishing were implemented by the prefectural government after the Meiji Restoration. These included closed grounds, closed seasons, restrictions on the type and size of gear, and restrictions on the size of fish that could be taken. Owing to its relatively small size and given the higher levels of mutual acquaintance of fishing people, implementation of these regulations has been relatively easy in Lake Biwa compared with maritime areas. At the same time positive measures for resource conservation, such as the establishment of fish hatcheries and deliberate stocking, were implemented. Some of these activities were financed from public funds but others were established voluntarily by individual village communities (*vide infra*). Experimental stations for scientific research and information dissemination were also established and maintained. *Ayu* fry fishing and freshwater pearl culture, two important fisheries on Lake Biwa today, owe their existence to these endeavors.

The *Fisheries Law* of 1901, the first comprehensive national fisheries law, did not significantly affect existing prefectural sea tenure arrangements. The previous



**Figure 4.** *Eri* Fishing License and Regulations as Issued Under the 1901 *Fisheries Law* (Gyoseki [Fishery Lot] No. 266, Fuchide of Konohama Village Section, Hayano Village, Yasu County. Length 430 *ken* (774 m), Width 130 *ken* (234 m). Mesh size: 甲-乙 9 mm, 丙-丁 3 mm.)

**Table 1.** Changes in the Number of *Eri* Fisheries Rights by Type of Holding (Operating) Units and Area: 1902-1982

Holding unit and year Area	No. of FCAs	1902			1948			1982			
		Private	Non-private	Total	Private	FA	Total	Single	Multiple	Coop	Total
South basin	1-9	85	47	132	17	51	68	35	4	-	39
North basin (east)	10-20	101	70	171	51	35	86	13	7	-	20
North basin (north)	21-26	74	10	84	45	48	93	34	15	2	51
North basin (west)	27-37	35	70	105	8	101	109	31	20	3	54
Total	1-37	295	197	492	121	235	356	113	46	5	164

exclusive licensing fisheries (*eri* and *yana*) were re-classified as fisheries-rights-fishing and others were labelled either licensed fishing or reporting fishing. (An example of an *eri* license issued at this time is shown in Fig. 4.) The *gyoseki* system was implemented more strongly. At this time fisheries rights were legally given the nature of "a right in rem," but this feature had long been evident on Lake Biwa, as demonstrated above.

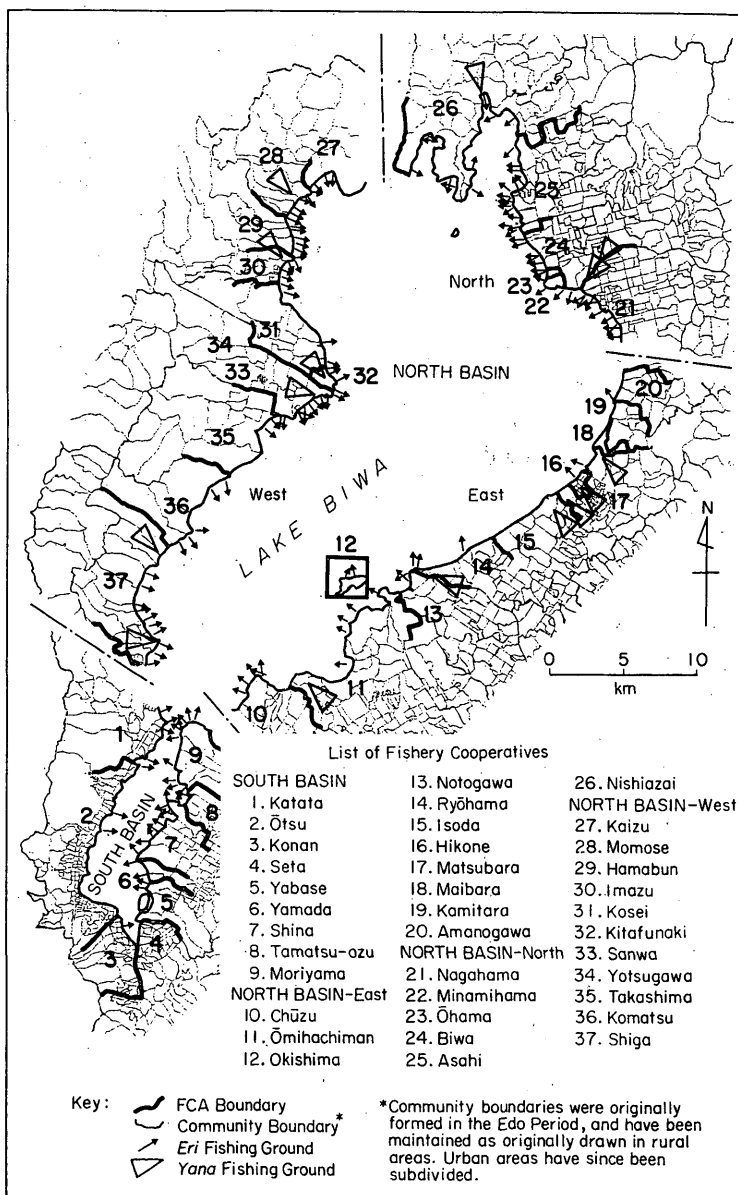
Table 1 shows the changes in the number of *eri* fisheries rights by the type of holding (operation), during the period 1902-1982.<sup>7)</sup> Due to the illegitimacy of village ownership, it is not easy to distinguish between group ownership and village community ownership.<sup>8)</sup>

Regional differences are revealed clearly. On the west side of the North Basin non-private ownership (*i.e.*, all forms other than family ownership) was dominant; whereas in the other three areas private ownership predominated. Three reasons account for that situation. First, since the Edo Period the eastern borders had been highly developed commercially and industrially, so private capital could easily enter the fisheries sector and private fish marketing was possible. On the other hand the western borderlands were remoter and therefore less suited to industrial development. This might account for group processing and marketing of catches. Second, on the western side there were numerous *yana*, which is territorially less mobile than *eri*, and thus tended to belong to a particular group or to a village. Here, then, the dominant principle of *yana*-holding is considered to have penetrated, in terms of social organization, into *eri*-holding. Third, those distinctions between the two regions coincide

7) These figures were calculated from the original licensing documents held by the prefectural government. Each document contains the name of the rights holder(s) or representative holder(s), the number of holders, the residence of the holder, the content of rental arrangements as well as information on each gear type, such as setting location, size, mesh size, kind of catch and fishing season.

8) Thus only private and non-private categories are shown for 1902. The figures for *yana* are not shown because most are held on a non-private basis.

with the different administrative units of the Edo Period. The northern and eastern sides of the North Basin were administered by the Hikone fief, which implies that mobility of people among different villages was relatively high. In contrast, the western side of the North Basin belonged to several feudal lords and, therefore, village boundaries were strictly enforced, both economically and socially.



**Figure 5.** FCA and Community Boundaries, and *Eri* and *Yana* Fishing Grounds (1982)

Fisheries Associations (FA) of the pre-W W II type had been established in several localities by the 1940s. As Hara [1977] suggests, they were necessary institutions to succeed to the fisheries rights that belonged to village communities since, according to the Law, a community itself was not entitled to ownership (Fig. 5). The ratio of FAs holding rights to the total shows great variability among areas (Table 1). The western side of the North Basin had the highest ratio, followed by the northern side. At the same time, the total number of *eri* rights decreased drastically in the South Basin and on the eastern side of the North Basin, owing to urban expansion and land reclamation.

The *Fisheries Law* (1949) and *Fisheries Cooperative Association (FCA) Law* (1948) were basically democratization measures implemented immediately after W W II, one of the basic objectives of which was to deny fisheries rights to absentee owners. Via these laws fisheries rights to small-scale fixed gear were granted exclusively to newly established local FCAs. These are known as Joint Fisheries Rights (JFR). Each FCA was given the decision-making responsibility for utilization of these rights, and to decide whether the cooperative or its members should operate them. Also, each FCA was obliged to draw-up written regulations for managing the distribution of JFRs. These would cover such matters as the eligibility of the applicant, priority of distribution and fees to be paid. However, most such regulations are dead letters that do not reflect the actual allocation processes [RUDDLE and AKIMICHI n.d.].

In 1982, 37 FCAs along the lake possessed fisheries rights to 164 sets of *eri*. Of these only five are operated cooperatively. Forty are multiple-family operations and the remainder (113) are single-family operations (Table 1). Of the four areas, the west side of the North Basin has the lowest ratio of single family operations (59 percent) the South Basin has the highest (90 percent). This reflects both the economic and historical characteristics of the two areas.

## JOINT FISHERIES RIGHTS AND VILLAGE COMMUNITY STRUCTURE

### SAMPLING METHOD

Based on the foregoing analysis, five FCAs were selected as representing particular characteristics. Two criteria were used for selection and classification:

**Table 2.** Characteristics of FCAs: Level of Urbanization and Degree of Dependency on Joint Fishing Rights

Degree of dependency on JFR	Low	Medium	High
Level of Urbanization			
Urban	I	II	—
Semi-urban	—	—	III
Rural	—	IV	V

*Table Note:* Nine classes are theoretically possible, but only five actually occur.

**Table 3.** Organizational Characteristics of Five FCAs

Socio-economic condition	FCA	No. of original village communities in FCA	Origin of the FCA organization	Membership characteristics		
				No. of members	Share of full-timers	Qualification unit of full membership
Urban; low dependency on JFR	1	4 villages	Privileged town community from 12th century	268	Almost all	Individual
Urban; medium dependency on JFR	2	8 villages 1 town	Merchant guild, Edo Period	27	Moderate	Individual
Semi-urban; heavy dependency on JFR	3	4 villages	One village community	75	Moderate	Family ( <i>ie</i> )
Rural; moderate dependency on JFR	4	4 villages	One village community	108	Moderate	Individual
Rural; heavy dependency on JFR	5	1 villages	Privileged village community from 11th century	204	Few	Family ( <i>ie</i> )

**Table 4.** Joint Fishing Rights of Five FCAs

	No. fisheries rights: <i>eri</i> , <i>yana</i>			<i>Eri</i> operation method (1982)	<i>Yana</i> operation method (1982)	Qualification unit ( <i>eri</i> )	Qualification unit ( <i>yana</i> )
	1902	1949	1982				
1	6 (1)	8 (1)	6 (1)	Single family	Single family	Family ( <i>ie</i> )	Family ( <i>ie</i> )
2	30 (0)	10 (0)	2 (0)	Single family	None	Family ( <i>ie</i> )	—
3	53 (0)	24 (0)	12 (0)	Single or multiple	None	Family ( <i>ie</i> )	—
4	8 (1)	9 (1)	6 (1)	Single or multiple	Sub-cooperative	Family ( <i>ie</i> )	pre-existing paupers' right
5	9 (2)	11 (2)	7 (2)	Multiple family	Cooperative	Family ( <i>ie</i> )	pre-existing privileged family right

urban-rural dichotomy (*i.e.*, urban, semi-urban and rural), and the degree of dependency on fishing through JFRs (*i.e.*, the share of the catch [high, medium and low] procured by *eri* and *yana* in 1982 [Table 2].) The major characteristics of each FCA are summarized in Tables 3 and 4. Table 3 shows the organizational characteristics of the respective FCAs, and Table 4 presents the historical change in the number of *eri* and *yana*, and the operational method of each gear type in 1982. (For anonymity, the five FCAs are referred to by number.)

### 1. An Urban, Low JFR-Dependent FCA

This FCA originated in a religious privilege awarded during the Middle Ages and a political privilege given in the feudal period. Based on these this FCA has long supported itself, mainly by net fishing. Today its catch is the largest of any Lake Biwa FCA, and its fishermen are mostly full-timers. Some combine fishing



with other self-employed businesses, but none with farming. (Few FCA members here own or cultivate farmland.) This town was once an important port, and the geographical mobility of its fishermen was relatively high. Geneologically new fishing families are dominant and few families date back to the Edo Period.

FCA 1's fishermen proudly state that "*eri* and *yana* are not fishermen's tasks." Fishing with joint fisheries rights (JFR) is insignificant, rather licensed fishing (mainly netting) is the dominant technology employed. Since licenses are allocated and issued to individuals, families can hold more than one. Fishermen are not much concerned with JFR allocation. Those who want one must apply. The allocation of JFRs, for a period of 2–3 years, is decided by a committee, but only one gear is permitted per family. Although fishermen have agreed that one family can never possess a JFR for two consecutive periods, cases actually occur, mainly because establishing an individual-family *eri* requires substantial capital. Records confirm that no family has possessed a particular fishing right exclusively for consecutive years since the Meiji Restoration (1868).

## 2. An Urban, Medium JFR-Dependant FCA

FCA 2 is located close to the urban center of Shiga Prefecture, and has largely lost its fishing grounds (Table 4). It originated during the Edo Period as a seine netting guild, but fishermen here were also engaged in commerce or in service industries. Even today many members of this FCA combine fishing with such jobs as keeping an inn or working in service industries. Again, few are farmers. A unique characteristic of JFR's here is that of the remaining two *eri*, one has been used exclusively by a single family for about 100 years. Although FCA members are discontent with this exclusiveness, none dares speak-up. This is partly because FCA members hesitate to break the long-standing social order of the FCA, where face-to-face relationships are considered the most important.<sup>9)</sup> It is also the result of the relatively low rate of dependency on JFRs in this area. The importance of other types of fishing and the availability of alternative employment opportunities have allowed one family's continuous use of a JFR.

## 3. A Semi-Urban Highly JFR-Dependent FCA

This FCA makes the greatest *eri* catch of any Association on Lake Biwa, and has mastered the traditional technique of *eri* construction. Even in the Edo Period some villagers owned *eri* outside this village, as a result of having purchased *eri* rights. They were absentee owners who hired *eri* construction technicians from the village to operate the gear. Within this village, too, *eri* owners tend to be distinct from operators. The former usually owned farmland and held a high status in the village, as a village leader, whereas *eri* construction technicians usually possessed little farmland and their social status had traditionally been low, mainly because of their

9) As Kalland [1981] vividly describes in Shingū village, orderliness among FCA members is considered very important. This is also true for other FCAs.

membership in branch family social strata. The reforms implemented by the *Fisheries Law* (1949) prohibited the absentee ownership of *eri*. Since land reform was also implemented at the same time the owners lost both *eri* fishing rights and farmland. Many village leaders quit fishing then and took-up white-collar jobs. Today *eri* operators are dominant in this FCA.

The allocation of *eri* JFRs is determined by the Management Committee, according to several criteria such as the ability to operate and economic dependency on *eri* fishing. Where an *eri* is small one family is allocated a JFR, but for large ones several families are selected. Although formal allocation rules suggest that priority go to families with few working members, and thus who are unable to conduct net fishing, this seldom works out in practice and a JFR is usually allocated to powerful members of the FCA. A leading FCA member explained that "since a JFR is an important but scarce asset for the FCA, it should be allocated to those who are skillful, who have enough capital to invest and to pay fees, and who are reliable." This may imply that to sustain their own FCA, which is highly dependent on *eri* fishing, efficient use of a scarce resource (JFRs) is inevitable.

#### 4. A Rural, Medium JFR-Dependent FCA

In this FCA *yana* is more important than *eri* fishing. The present *yana* rights were purchased at an auction, in 1875, by a leading village—of the four which constitute this FCA—after a long and violent dispute among them during the Edo Period. To preserve the *yana* resource, this village constructed a fish hatchery in 1883. Since the mid-Meiji period, the *yana* has been allocated exclusively to the village paupers, who had little farmland, to provide a livelihood.<sup>10)</sup> The village leaders, who belonged to the landlord class, were also members of the FCA at that time, and supervised the *yana* management. But once the paupers started fishing the leader never again participated in *yana* fishing.

The *Fisheries Law* of 1949 excluded the former upper classes from FCA membership, via the principle of operators' cooperatives. Thus the pauper class became dominant in membership of the FCA during the post-WWII period. Through the integration of FCAs, the present one consists of four village communities, and the JFR or *yana* fishing belongs exclusively to a certain group in the leading village. In other words, the prewar system of "paupers' *yana* fishing" continues to the present. Although this may appear inequitable, the *yana* fishermen perceive it as follows: "This right has been long-preserved and was succeeded to by our ancestors of this village, so no other village could enter. In addition, this privilege cannot be extended to all the FCA members within our own village, either. *Yana* fishing has its ups and downs; it would be unfair in the long run if they participate in *yana* when fishing is

10) In paupers' fishing the poor were given exclusive use rights to village communal assets (*yana*) but in so doing were regarded as lowering their status. This type of social reciprocity shares a common structure with the "moral economy" that Scott [1976] constructed for Southeast Asia.

good and withdraw when it is bad." This perception appears to reflect the solidarity of the pauper class (or their descendents), who had long been discriminated against.

The allocation of *eri* rights is decided by the Management Committee on the basis of the applicant's economic dependence on fishing and his reliability within the village community. Many FCA members especially stressed the criterion of economic dependence as being the most important. This may reflect their concern to provide an economic base for community members, as manifested in the traditional allocation system for JFRs.

### 5. A Rural, Highly JFR-Dependent FCA

Since 1098 A.D., when it was granted religiously privileged rights, this FCA has retained the *yana* fishing rights to the Ado River, which flows into Lake Biwa. Further, the territory of the present FCA is the same as that during the days when it was a privileged village. This territorial conservativeness has been maintained so as not to release the *yana* fisheries rights to other villages. However, FCA membership is not open to all village members. According to an unwritten village rule, new residents cannot participate in the FCA unless they continue to live in the village for approximately one generation, or about 30 years. A wait of 10 years after the establishment of a branch family is required for membership. In contrast, any stem family which has membership can automatically succeed to rights over generations. In other words, family (*ie*) succession is of deep concern to this community, and the present FCA keeps an exhaustive record of family lineage and succession.

This FCA possesses both *yana* and *eri* JFRs, and once FCA membership is given fishermen can participate in either or both operations, as they please. A *yana* is operated cooperatively and an *eri* by a group of applicants.

Four-wing-scoop-net fishing in the river is, however, limited, being open only to the prewar privileged families. Although of little economic significance, this category of fishing and its entry limitations fishing bears the symbolic meaning of past traditions. In this village FCA the selective nature of fisheries right fishing was much stronger in the prewar period. Formerly only families from the higher social stratum could hold and succeed to fisheries rights. This rule originated with the start of privileged fishing, approximately nine centuries ago. Members of this FCA are proud of their 900-year tradition of privileged fishing, and even today they dedicate some of the catch as an offering to the Kamigamo Shrine, in Kyōto, which bestowed the original right on the villagers. In this village, then, the fisheries rights have been considered as a symbol of higher status within the village, in complete contrast to the previous case.

### Comparison and Implications of the Cases

As the foregoing cases reveal the pattern and characteristics of JFRs are strongly influenced by historical, economic and political factors. To this list may also be added such everyday aspects as face-to-face relationships within the village community. With respect to the "socially selective unit" for FCA membership, cases 1, 2

and 4, are adopting the system on an individual basis, whereas Cases 3 and 5 award JFRs on a family basis (Table 3). The latter system allows only one regular membership per family, even if both the father and son(s) are engaged in fishing. The regular member (*i.e.*, the father) has the right to vote for FCA representatives and can receive, for example, fisheries compensation money, whereas the associate member (*i.e.*, the son) usually does not. The present *Fisheries Law* (1949) stipulated various articles based on the individual operator as a unit. These are reiterated in the articles of each FCA, which define as the operator "a person who is engaged in fisheries for 90 days or more in a year." But in practise regular membership is not always dealt with in such a manner.

It should be noted that the two FCAs which adopt the family as the unit of membership (3 and 5) are highly dependent on JFRs (Table 3). Also, in all five FCAs fishing rights to *yana* and *eri* are allocated to the family (or group of families) but not to the individual (Table 3). This perception of the family as the basic unit in JFRs is closely related to the villagers' perception that the basic social unit in the village (or town) community is the family rather than the individual. Since set trap fishing rights are considered to be a communal asset, it is logical that villagers allocate JFRs on a family basis.

Such a social selection is even stronger in Cases 4 and 5. In the former FCA membership is allocated to the individual, *eri* rights to the family, and *yana* rights to a group of families (called the *yana* group). *Yana* fishing rights licenses are allocated only to the prewar pauper class and their decedents. In Case 5 licenses are allocated exclusively to the privileged families, and, on some additional condition, to their branch families. Such a limited entry system parallels the traditional stem family system of rural Japan in which qualification and social status are clearly differentiated between the main (stem) family and its branch family. It should also be noted that the above two cases share common features in that both are located in rural areas, have limited non-fishing employment opportunities and are highly dependent upon JFRs.

Finally, the implications of the "subjective legitimation logic," the substance of which as it pertains to JFR allocation is included in each case study, should be examined. Eligibility for and the allocation of JFRs are strongly influenced by the historical conditions of each community. Fishermen's perception of social justice and equity also reflect this historical background. Consciously or unconsciously their perceptions about equity in the allocation of JFRs embraces not only the present situation of individuals or families but also their ancestors' efforts as well as long-term reciprocity. Further, social justice and equity are often judged not on monetary or economic grounds alone but also on social factors like social status. This can be regarded as an important cultural heritage of the people living around Lake Biwa and one which is possibly a reflection of a basic Japanese cultural fabric.

## CONCLUSION

As the papers published in this volume demonstrate, Japan provides one of the world's best examples of long-surviving systems of sea tenure that have continually been adapted to changing circumstances. Lake Biwa fisheries provide a typical example of the adaptations made by small-scale fishermen over many centuries. The nature of this adaptation has been strongly influenced by the family and village community, the two basic elements of Japanese society. The ideology and integration of family and village community have regarded joint fisheries rights (*i.e.*, the *eri* and *yana* set gear fishing) as communal assets, while, in turn, joint fisheries rights have also influenced and defined the community. The expansion of non-fishing employment opportunities in recent times has permitted the continuation of fishing-right holding by particular social units.

The role of various administrative measures is another factor which has helped to maintain Japanese sea tenure institutions. Fisheries administration in modern Japan is considered to have been relatively successful in part because it paid a high regard to existing local customs and laws. The basic principles of territoriality and subsistence, on which Edo fisheries administration was based, continue to function today and protect the livelihood of small-scale fishermen. In addition, the fisheries administration has actively promoted and disseminated new fishing technology.

However, the fisheries situation in contemporary Japan is precarious. As Befu [1980] points out, water pollution and land reclamation projects have substantially decreased fishing grounds in the Inland Sea. He also suggests that compensation for reduced or lost harvests paid by the government or by private companies has served to degrade the work ethic of fishermen. Lake Biwa fisheries have also suffered, although to a lesser degree, where various water resource development projects have been implemented or where industrialization has taken place.

Lake Biwa supplies drinking water for more than 13 million people in the Kyōto and Osaka areas as well as meeting the massive increase of industrial and agricultural water demand. The lake also functions as the sewage pond for its catchment, in which more than one million people live and where industrial and agricultural developments are occurring. Eutrophication has therefore emerged as a major problem. In addition, Lake Biwa's leisure space for sports fishing, sailing and swimming has been increasingly sought. Thus the interests of various social groups have become intertwined and conflicts among them have intensified. As a consequence, "groupism" as a mechanism for conflict avoidance is no longer effective under these complex modern social conditions. Fishermen's groups, for example, have relinquished their time-honored rights for cash compensation, with little regard for their long-term livelihood. It would thus appear increasingly critical that these wider issues be included in an expanded discussion of Japanese sea tenure, in all its milieux.

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