

# Ebibara Shrimp Fishing Ground, Japan

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## 1 Part I: Static Analysis - Collective action

The fishing village of Ebibara is densely populated, with roughly three hundred fisherman. Shrimp is the primary resource being targeted, but other tiny fish and seaweeds also have marketable qualities. All fisherman are members of the local fishing cooperative. The types of fishing activities and equipment are regulated by the government. In the off-seasons, illegal fishing techniques are used since the money from authorized methods is inadequate.

### 1.1 The Commons Dilemma

- Due to an imbalance between technological capability and natural supplies, Ebibara has experienced a threat to its community. The use of recently introduced technical advancements like strong diesel engines in boats or nylon nets helps fishermen to make bigger and more productive catches and overly exploit the stock. Thus, it encourages fishermen to overfish beyond what is sustainable, which creates a commons dilemma.
- During off-seasons, illegal fishing techniques are used since legitimate ones do not really generate enough money. Fishermen from the Ebibara fleet and others who are poaching in the Ebibara fishing grounds continue to clash. Trawling and the use of large nets are the two major ways that poaching occurs. There was one violent incident recorded in 1952.

### 1.2 Biophysical Context (IAD)

- **Natural infrastructure:** The total area of Utsumi-shi is close to four square miles. The average size in Utsumi-shi is approximately  $1 \frac{1}{4}$  acres, as compared to the national average of slightly less than  $2 \frac{1}{2}$  acres per household.
- **Hard human-made infrastructure:** A fleet of roughly eighty boats is operated by the fishermen of Ebibara. The boats average thirty-five feet in length, weigh three to five tons, and have a width of around eight feet. The equipment used for lawful trawling and illegal fishing is different. Nylon nets, which are often attached to racks and may disrupt and catch shrimp and other tiny fish on the ocean floor, are the main equipment used for lawful trawling. Trawling includes strolling on the ocean floor with nets hooked to rounded rocks to catch more shrimp and fish. Another kind

of illegal fishing uses two heavy, long planks attached to a large net to catch more valuable species.

### 1.3 Attributes of the Community (IAD)

- **Social Infrastructure**

- *Gyomin (fishermen)*

Ebibara *gyomin* are very competitive in certain areas while yet being quite cooperative in others. They quickly band together to defend their own interests. They have long-term maintained a fishing cooperative through which they are able to promote a number of other advantageous economic ventures and reduce wholesalers' exploitative pricing of marine products. Although they labor virtually side by side with *gyomin* on the wharf every day, *burakumin*, members of the "outcaste" Japanese minority, are the closest anybody will go to interacting with them to say hello. If not, they are often disregarded.

- *The Co-op and Its Affiliates*

The cooperative in Utsumi-shi has roughly three hundred registered members. Twelve directors and five finance officers oversee the co-operations. The women's auxiliary has three hundred members as well, but neither the auxiliary nor women have any formal authority or a chance to be elected to the co-op board of directors. The youth division, which has thirty-five male members and functions as a combination of service and pleasure, is a subsidiary of the co-op.

- *Kogi Kumiai*

Unofficially connected to the cooperative is Kogi Kumiai (the term *kogi* derives from old-time net fishing by rowboat; *kumiai* means union, or co-op), a local pressure organization set up by the owners of the fleet of powered trawlers. It strives to increase the fleet's rights to conduct its fishery without so many limitations. Furthermore, if they participate in the unlawful actions, it aims to defend its own members by taking collective action.

- *Department of Fisheries*

To reduce the discovery of illegal fishing activities by police patrol boats, the boats of other types that go out in the morning or afternoon bring back the report of the patrols. They also make suggestions based on the weather. The fleet then acts accordingly. Fishing activities in Ebibara are households based. The household owns the fleet boat, and often 2 male members from the household operate the boat without hiring outside labor. Trawling does not restrict regulated, yet by 1950 federal and prefectural laws limited the boats to travel no further than 2 to 3 miles from the beach. The fishermen tend to think they are self-hired thus they set as many of their own rules as possible. The fishing days increase and the fishermen work more than 12 hours per day.

In order to decrease the likelihood that illicit fishing operations would be discovered by police patrol boats, other kinds of boats that leave in the morning or afternoon return with a report on the patrols. Even though trawling is not restricted, federal

and prefectural rules passed in 1950 restricted the boats' range to two to three miles from the coastline. A large portion of the transformation that has been taking place in Ebibara is a direct consequence of government initiatives, particularly those made by the Department of Fisheries in collaboration with the cooperative movement. It is clear that the Department of Fisheries at all levels of government is aware of unlawful actions. Instead, authorities often exhibit extremely restrained responses of their own.

- **Human Infrastructure**

*Gyomin* households have always been thought of as being less concerned than the majority of other families. More and more people of the current generation do not see higher education as a luxury unrelated to their field of work, contrary to the tendency of previous generations of *gyomin*. The family fishing boat was the most priceless asset in their case. A second or third son may often join the oldest son as a partner or helper and spend years working on the boat with him.

#### 1.4 Rules in Use (IAD)

1. **Position Rules:** The cooperative is supervised by twelve directors and five financial officers. All of them are elected by around two-thirds of the membership at the organization's annual general meeting. Women are not eligible for board of director elections. Three representatives from each of the five grassroots sections will make up the whole board, which will have a total of thirty-two members.
2. **Boundary Rules:** More than three hundred people joined the cooperative. One must fish at least ninety days per year, hold at least five shares of the stock, and consent to the fishing membership criteria in order to join the Ebibara co-op.
3. **Choice Rules:** In the off-season, fishermen engage in illicit fishing since the money from legal trawling is inadequate. Many members of the fleet spend their off-seasons temporarily working at other occupations in Utsumi-shi or gathering the remnants of the seaweed crop.
4. **Aggregation Rules:** To join the co-op, one must fish at least ninety days a year, hold at least five shares of stock, and agree to the membership's fishing rules. Membership drops once membership criteria are implemented.
5. **Scope rules:** Ebibara's fleet is limited to port waters. Federal and prefectural laws in 1950 restricted its boats to two or three miles since Ebibara was constructing motorized fleets, thus competition for greater catches eventually overtook and reduced these benefits.
6. **Information Rules:** Off-season fleet fishermen gather at the wharf to hear whether patrols were seen. Kogi kumiai representatives lead informal discussions among one hundred fifty fisherman. After fifteen minutes of deliberation, all boats go together or remain behind. No boat leaves alone, whatever the deal. If onshore, the session frequently turns into a gossip fest.
7. **Payoff Rules:** Penalties might differ. Although it is more common for the catch to be seized than the equipment. Each boat that is apprehended also often has to pay

a fine of at least \$14, which *kogi kumiai* may assist with. Even though nobody here has had their fishing license revoked yet, enough occurrences might result in it.

## 1.5 Summary

Ebibara's issues against the illicit fishing operations such as trawling are not strictly regulated. There is still hostility between the Ebibara fleet of fishermen and those who plunder the Ebibara fishing grounds. The two basic types of poaching are simple trespassing and destroying the fish traps. There was one violent incident recorded in 1952. The cooperative helps to raise money for fishing operations and consumption, although it is far less effective at consuming goods than it is at producing them. The cooperative is in charge and has agreements on fishing rights, but there is no severe enforcement of the laws. Police patrols and cooperative leaders take control of rule reinforcing, but fishermen in Ebibara set up a reporting system to prevent being found.

## 2 Part II. Dynamic Analysis - Robustness

Ebibara combined seaweed with fish as two chief resources. About two hundred members of the cooperative share the seaweed cultivation ground. Each of the five community divisions has its section of the shore. And the rest continue working with the fleet. The red algae spores that attach themselves to the nets and proliferate astronomically in the late autumn months are what make up the seaweed. At low tide, when the nets are above water and caretakers may walk among them, the crop is scraped off whenever it seems to have grown enough.

A self-educated young man in the community was given direct responsibility for the seaweed farming project by the Department of Fisheries. This choice was by no means simple. It was far more frequent to encounter resistance. However, the patriarchal status of the older co-op members—whose influence may be as strong in Ebibara as it is across Japan—seemed to be sufficient to win the rebels back.

Ebibara does show that in a little over 10 years, its proud and independent family owners of trawling boats have been able to subordinate, if not to replace, time-honored patterns of unproductive and unlawful competition, and possibly even to soften their deeply ingrained attitudes of envy.

The federal, provincial, and local Departments of Fisheries have helped the fishing cooperative, which often acts as an informal educational and experimental agency of certainly bigger influence than any program of official education, to reduce such conflicting behavior.

## 3 Part III. Case Contributors

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