REVIVING FISHERY TECHNIQUES: THE FISHING INDUSTRY IN POST-DISASTER SHINCHI-MACHI, FUKUSHIMA PREFECTURE

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The coastal area of Fukushima Prefecture suffered a 'double' disaster in the Great East Japan Earthquake, first in the form of a disaster caused by the massive tsunami, and subsequently by the nuclear accident of Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant, which was a man-made disaster. From June 2012, a year after the earthquake, a 'trial fishing' system was implemented along with a system of inspection, including the selection of fish species and fishing ground, and controlled management of the shipping system. The purpose of this 'trial fishing' is to monitor whether fish are contaminated by radioactive materials, throughout the processes from catching to marketing, and at the same time to increase the opportunities for fishers to maintain their livelihood.

Although they are mechanized, fishery operations still require skills such as selecting fishing grounds and understanding water conditions, and trial fishing is also essential for maintaining and passing down these skills and techniques. However, trail fishing operations are far more restricted than normal operations in that any bycatch of non-target species is banned, and individual fishing boats are not allowed to decide on their own to operate or not under certain weather conditions. There are fewer fish markets where fishermen can unload their catch, and they must transport their catches to the markets by themselves. In fact, such inconvenience imposed by this system is far from the original fishing practice.

At Shinchi-machi in Fukushima Prefecture, for example, there were many fishing boats sized around 6 tons doing net fishing, and of the 44 fishing boats at the time of the earthquake, 32 survived the tsunami by escaping offshore. Some boats were subsequently retired, while six were built after the earthquake. Currently, 32 boats are participating in the trial fishing.

Changes after the earthquake in the size and the quantity of the catch are as a matter of course related to the changes in fishing techniques. For instance, the overall size of fish off the coast of Fukushima Prefecture is getting bigger. As trial fishing is undertaken only once or twice a week, not only the number of fish but also their size is increasing. In the case of gillnets for fishing *karei* (righteyed-flounder) before the New Year, their mesh size has been changed to 6 *sun* 3 *bu* (using traditional measurements, approximately 19 cm), compared to their pre-tsunami size of 5 *sun* (approximately 15 cm) wide. Improvement of fishing net as such has happened recently in the fishing communities in southern Miyagi prefecture, which is neighboring Shinchi-machi. It is the fishermen near the border of Fukushima

Figure 1
A fishing boat cooperating in the 'sampling survey'. (Source: S. Kawashima, 31 October 2018)

Prefecture such as Shinchi-machi who are most frustrated because, despite the fish are growing bigger and in quantities, the restriction set by trial fishing that only permits fishing once or twice a week, and the fish population that grew bigger off the coast of Fukushima Prefecture migrate to Miyagi Prefecture.

In addition, bycatch of certain fish varieties such as *kounago* (young Pacific sand lance) and *shirauo* (whitebat) are prohibited under trail fishing to begin with, although such bycatch is not so common due to differentiated fishing methods. Regulation of the Soma Harakama Fisheries Cooperative stipulates orders to release non-target fish species, such as: 'the owner of the operating boat must release the fish and shellfish that were caught as bycatch, except for the target fish species, and never take them home' (on trial fishing of *kounago* 2018), and 'never land bycatches other than the target species; the captain should take responsibility to release the bycatch from the boat' (on *shirauo* trial gillnet fishing 2018).

In fact, fishermen are generally satisfied with their catches of the day that are given by God, and it is hard for them to think about discarding some fish just because they are non-target species. To the contrary, there is also a saying that 'it is always the sample survey when catches are less' (Figure 1). This is a sort of precept among the fishermen that is widespread across Japan, that if you have a strong desire to catch fish, you will not gain many, which is similar to a common jinx that says 'the requested fish will not be caught'. A captain of a fishing boat in Shinchi-machi says 'if you load an empty tank (to store the catches) on your truck, you would not be able to catch any fish'. Another fisherman says 'if you bring a lot of ice (to keep the catch) on the boat, you will not catch many fish'. It seems that, if you express your intention to catch a lot of fish, God will not bless you with fish. Considering these ways of thinking, the ban on bycatch in 'trial fishing' and 'resource management' are both people-centered ways of dealing with the sea, although there is a slight difference of catching a lot or less.

Figure 2
Fishermen returning to the bank after tying up their boats away from the quay at right angle, to avoid damage from a storm.
(Source: S. Kawashima, 10 June 2018)

While fishermen endure restrictions such as not being able to decide on their own the days to fish, fishermen communities of Tsurushihama and Odohama in Shinchi-machi still maintain traditional practices of mutual assistance called *yuiko*, in which members join forces when, for instance, a boat is taking longer to unload takings, or when repairing a member's fishing net. Some customary practices led by the boat-owners' associations such as *tsunakake* and 'setting boats on a right angle (*fune-wo tate-ni suru*)' (Figure 2) are also carried out within the same cooperative system. Boats at the harbor are generally anchored alongside the quay, either on the starboard or the port side. However, as a low pressure or a typhoon approaches, ropes are stretched in a matrix in the middle of the harbor, within which boats are aligned to avoid them hitting the quay and getting damaged. This cooperative work is the *tsunakake* and '*fune-wo tate-ni suru*'. By hanging dubs (port fenders) on both sides of the boat, they will not hit each other.

As described above, 'a fishery technique become successful only when a series of operations of people, boats and fishing gears are united as a whole and activated organically' (Shibusawa 1962), which in a broad sense includes the fishery organization and management. In other words, as was the case in Shinchi-machi, such time-honored work practice has most significantly contributed to the prompt recovery of local fishing operations after the 2011 earthquake. It demonstrates that post-disaster rehabilitation is not the sole preserve of NPOs and urban engineering specialists, who suddenly appeared in affected localities in the wake of the tsunami disaster.

Also, most of the fishermen in Shinchi-machi lost their homes to the tsunami and had to be relocated collectively, mostly to Jingokita (Odohama) (approximately 70 households) and Gangoya (approximately 30 households). At these newly-adopted home, community members maintain their traditional customary practices such as *mukaebi* (welcoming fire) for the *Bon* festival. As a result, the *mukaebi* ritual, which is no longer common in central parts of Shinchi-machi, is practiced simultaneously at two separate locations: Jingokita, and Gangoya to the west of the central area of Shinchi Town, closer to the mountain side.

On the monument of *Nagare-sen kuyō* (a memorial for wrecked boats), which was relocated from Tsurushihama to Odohama after the tsunami in 2011, the names are engraved of 30 individuals who lost their lives in nine disastrous events at sea, ranging from the massive tsunami in 1902 to the recent one in 2011.

Coastal communities such as Tsurushihama and Odohama have always been exposed to sea accidents and disasters, which could have contributed to maintaining strong ties between the living and the dead. This explains why *Bon* rituals including the *mukaebi* have been so important and carefully practiced in these communities. What sociologists call the 'disintegration of community' cannot be applied here.

For fishery to revive as a livelihood, not only do practical fishing techniques need to be transmitted but attention must be paid to intangible factors that supported fishing techniques, such as the fishermen's attitude towards fish and the customary practices of the fishing communities.

References

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