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# The Policy System for Stable Securement of Fishermen and its Characteristics

: With a focus on Policy Development in Hokkaido

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## Summary

The number of fishery workers in Japan is decreasing. Accordingly, this paper clarified the functions of two-track policies designed to secure the positions of and train new fishery workers implemented by the Hokkaido Prefectural Government. We particularly focused on the “Securement and Development of Fisherman Center Project” of Hokkaido and the Hokkaido Fisherman Training Institute, and examined these programs’ operation and educational content, attributes of trainees, and trainee employment trends in order to specify an appropriate system for training fishery workers. The results indicate it is necessary to set up a training system to maintain coastal fisheries according to the reality of regional fishing industries. The training system should include the following: (1) training programs provided by the training institute to support the reproduction of the labor force from inside fishing families, and (2) training programs supported directly by public funds to provide skills training and an employment environment to the labor force from outside fishing families. Both training programs should be cooperative.

### 1. Objectives and method of the research

The number of fishery workers in Japan is on the decline. The fishery census conducted by the Ministry of Agriculture, Forestry and Fisheries shows that there was a decline from 625,935 workers in 1963 to 221,908 in 2008, barely over 200,000. This decline can be attributed to various factors: the policy of eliminating surplus workforce in fishing villages as part of the structural reform of low-productivity coastal fisheries, the flow of the workforce to urban areas due to the relatively decreasing role of fishing in a period of high economic growth, and the tendency, mostly among the youth, to refuse to work for fisheries. Today, the low number of fishery workers is a serious issue, and, as of 2008, fisherman aged up to 24 account for only 3.0% of all fishery worker.

This serious situation could endanger or im-

pair the stable food supply, and the relevant government agencies and local governments have been forced to implement a policy to secure human resources for the fishing industry. The Fishery Agency started the “Securement and Development of Fisherman Center Project” (hereafter referred to as center project) in 1996. The center and council established inside each prefectural government and prefectural fishery cooperative in conjunction with the center project held a fishery employment fair and recruited new fishery workers by matching the will to work of human resources outside fisheries (U-turn and I-turn people) with the employment needs of each fishing village. At the same time, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Fishery Agency jointly implemented a project “Development of human resources for regional fisheries with an emphasis on high schools” in

2008 and 2009, with the aim of developing fishermen in cooperation with local fishery cooperatives, in 10 schools in 9 prefectures.

From the viewpoint of marine economics, these approaches can be said to be still in the development stage. With reference to the approach of securing new workers for fisheries, Makoto Otani indicates that this is not a substantial breakthrough, but that it is not unusual for newcomers to the fishery industry to quit soon after they begin employment<sup>(1)</sup>. As for the latter, Takafumi Sasaki and Haruhiko Miyazawa wrote in our previous study that it is hard for “Fisheries High Schools” to functionally develop fishery workers without three key factors: namely, the construction of a flexible curriculum, qualifications responding to the current situation in fishery, and the cooperation of fishery cooperatives that accept human resources input<sup>(2)</sup>. However, these studies have mainly analyzed and criticized respective policies, and none of them has yet submitted a policy system for the proper securement of fishermen.

This paper aims to clarify the positioning and system of several ongoing policies for securing fishery workers, as well as the significance and function of each policy, and explore the characteristics of a policy that develops fishery workers in a way that is necessary for the sustainable development of the fisheries industry.

The method we have taken in this paper is to focus on the management of the center project and fishery training center that Hokkaido has been offering, and discuss effective fishery worker development through analyzing the project, its educational content, and the attributes of its target people.

This paper focuses on Hokkaido for two reasons. First, Hokkaido has an important position among Japanese coastal fisheries. Hokkaido’s fishery industry accounts for the majority of Japan’s fish catches, both in amount and value, and it is not too much to say that Hokkaido’s fishery has a decisive influence on the stability of Japan’s food sup-

ply. Second, Hokkaido has a fishery worker-training institute that has received little attention from existing studies. Japan has established fishery worker-training institutes in four different prefectures: Hokkaido, Shizuoka, Saga, and Miyazaki. However, unlike the other three fishery worker-training institutes, which specialize in a specific fishing operation, only the Hokkaido Fishery Worker Training Institute addresses the general reproduction of management of coastal fisheries.

Because both ocean and offshore fisheries are presently in a very bad condition, coastal fisheries are increasingly important for the stable supply of marine products in Japan. In the current situation, it is rather important to analyze the policy of securing fishery workers in Hokkaido, Japan’s biggest fisheries base, and to explore the sustainable development of coastal fisheries.

Keeping the above problems in mind, this paper focuses on the activities of the Hokkaido Fisherman Training Institute to explore the characteristics of a policy system that is vital for the stable securement of fishery workers and the sustainable development of fisheries, and to clarify the complementary relations between the Hokkaido Fisherman Training Institute and the center project intended for people entering the fisheries industry from elsewhere to bring about such demographic phenomena as the I- and U-turns.

## 2. Present situation of fishery and fishery workers in Hokkaido

### (1) Characteristics of fishery production according to the fishing area

Fishing in Hokkaido accounts for 70% to 90% of Japanese production of such important fishery products as salmon, Alaska pollock, Atka mackerel, scallop, and kelp, both in amount and value. In 2010, Japanese sea fishing and aquaculture in 2010 amounted to 5,515,000 tons and 1,542.1 billion yen in value, of which 1,465,000 tons (26.6%) and 295.8 billion yen (19.2%) are from Hokkaido.

Fishing in Hokkaido, with such big produc-

**Table 1** The product trend according to the sea area of HOKKAIDO

	The Japan Sea	The Pacific Ocean	The Sea of Okhotsk
Management body	5,838	7,573	1,369
Amount (t)	262,535	791,501	403,377
Turnout (million yen) : A	51,974	141,066	58,738
Number of fishermen : B	6,632	9,285	2,009
A/B	7.83	15.86	29.24

Reference ; HOKKAIDO office survey, *HOKKAIDO FISHERIES TODAY* 2011, 2011.

tion resources, can be divided into three according to the sea area that Hokkaido overlooks: (1) The Japan Sea from Cape Soya at Wakkanai to Cape E-san at Hakodate, (2) The Pacific Ocean from Cape E-san to Cape Shiretoko at Shari-cho, and (3) The Sea of Okhotsk from Cape Shiretoko to Cape Soya. Just as the main products and production structure vary according to the sea area, so does the management situation. (Table 1)

The Pacific Ocean area is the largest of these three areas in terms of the amount and value of production, followed by the Sea of Okhotsk and the Sea of Japan areas in this order. In terms of production value per member of fishery cooperatives, however, the Sea of Okhotsk area is very high (29,240,000 yen), nearly twice that of the Pacific Ocean area (15,860,000 yen)<sup>(3)</sup>. The sea area with the lowest production value is the Sea of Japan area. In this area, the production value per member is 7,830,000 yen, which is 26.8% of that in the Sea of Okhotsk area and 49.4% that of the Pacific Ocean area, showing the fishery management varies greatly with sea area.

The great difference between the production values in the different sea areas is largely because of the major products and their unit price. In the Sea of Okhotsk area, the major product is scallop, which accounts for 62.3% of the production amount and 40.4% of the production value. Scallop is highly competitive for domestic consumption and export. In contrast, the major product in the Sea of Japan area is low-priced Atka mackerel. Because of its low unit price, Atka mackerel does not contribute much to production value, although it accounts for 32.7% of the overall production amount in this sea

area.

(2) **Characteristics of the fishery employment trend by sea area**

Fishery operators in Hokkaido account for 12.8% of all fishery operators in Japan, and 27.9% of all fishery production in Japan. They enjoy an overwhelmingly high production scale per operator in Japan. However, even in the Hokkaido fishery, which is blessed with an excellent environment and resources, the number of workers decreased from 50,555 in 1978 to 33,568 in 2008. Likewise, the number of fishery operators decreased from 25,817 operators to 14,780 operators in this period. The proportion of workers aged between 15 and 39 years old decreased from the second half of 30% to 22.7%, whereas those aged over 60 years now account for 32.4% of all fishery workers.

These trends vary with sea area. In the Sea of Japan area, with the least per capita production value of the three sea areas, the age group comprised of those between 15 and 39 years old decreased from 1,554 people in 1998 to 1,472 people in 2008. In the Sea of Okhotsk area, which maintains an excellent management situation, the same age group increased by 76.2% from 1,212 people to 2,136 people. Proportions of over 60s remained high in the Sea of Japan area, at between 50.0% and 50.5%, but decreased from 21.1% to 17.8% in the Sea of Okhotsk area. Entry to the fishery industry and re-

**Table 2** The fisheries environment according to the sea area

	Sea of Japan	Pacific Ocean	Sea of Okhotsk
Business condition	Bad		Good
Working condition	Good		Bad

newal of fishery workers both progress smoothly in the Sea of Okhotsk area. Table 2 shows the degree of difficulty in the employment situation (Business condition) and the securement of successors (Working condition) in the three sea areas.

### 3. Characteristics of developing fishery workers in the Hokkaido Fishery Worker Training Institute

#### (1) Law and ordinances regarding the establishment and the present organization

The Hokkaido Fishery Worker Training Institute dates back to the training institutes established in Wakkanai (1964), Hakodate (1968), and Kushiro (1971). Each of these implemented specific support for qualification acquisition and employment, producing a total of 12,586 graduates<sup>(4)</sup>.

However, due to the decline in fishing and aspirations for optimal budgets, these three training institutes were integrated into one. The full text of the "Ordinance of Hokkaido Fishery Worker Training Institute" (1964, Hokkaido Ordinance No 78) was revised in 1996, and the Hokkaido Fisherman Training Institute, affiliated with the Marine and Forest Bureau of the Hokkaido Government, was established in 1997.

The Hokkaido Fishery Worker Training Institute mainly provides general residential training that educates entrants in fishery. It is staffed by 10 officials: the director, the assistant director, four officials in the general affairs and training department, three training managers (educational staff), and a technical staff (captain of the training boat). All three training managers are professionals in fishery and ex-workers in a fishery technology dissemination center in Hokkaido. The training institute outsources the captainship of the training boat to a local fishery operator.

No great difference exists in facilities and equipment between the Hokkaido Fisherman Training Institute and other general fisheries high schools. It has facilities including a seminar room, a library, an information processing room, a mar-

ine processing practice room, a submergence practice room, a gymnasium, and a dormitory. The difference between the training institute and the fishery high school is the training ship. While a fishery high school has a 500-ton training ship, the training institute has only two training boats. One is the 4.9-ton FRP boat "Hagukumi No.1" and the 1.1-ton FRP boat "Hagukumi No.2" This demonstrates that the training institute aims to supply human resources to coastal fisheries.

The training institute has an operating budget of 74,810,000 yen, of which 18,340,000 yen is for outsourcing lectures and thanks for visiting lecturers, 55,100,000 yen is for the maintenance cost of buildings, including the dormitory and training boats, and 1,370,000 yen is for other purposes (5). Although efforts are being made to reduce expenses amid the austerity budget of the Hokkaido government, a certain level expenses is necessary. Every trainee has to pay about 500,000 yen per year because they have to pay their dormitory food bill (1,370 yen per day), their energy bill, and the examination fee for qualification acquisition.

#### (2) The relations between the fishery cooperative and municipality

The general training accepts about 40 students annually (the average intake since the institute's establishment is 44.5 students annually). It trains new students for seven months from May to November. The maximum number of students to be admitted is 50, and people aged 18 and above who completed compulsory education are qualified for admission<sup>(6)</sup>. The training institute distributes its application guidebook to high schools and fishery cooperatives across Hokkaido. However, most high-school-educated applicants are graduates of the general course, and scarcely any of them are graduates of a vocational high school. In addition, some are college-educated applicants who file an application upon graduation from college. In 2012, five college-educated students were admitted and they accounted for 14.3% of all enrollees.

Applicants are required to attach a recommen-

dition from a fishery cooperative inside Hokkaido to their application. This is because of the premise that graduates should become members of the fishery cooperative, which should then recommend them to become engaged in coastal fishing. Fishery cooperatives that issue recommendations and municipalities that are short of fishery workers entertain great expectations of the approach taken by the training institute. In 2012 alone, two cities, six towns, and a fishery cooperative provided various kinds of subsidies on the condition that applicants should settle and work for their fisheries after graduation<sup>(7)</sup>. This represents the training institute's function of developing human resources.

We collected data from the annual business report of the Hokkaido Fishery Worker Training Institute and found that total number of applicants, admissions, and graduates were 695, 623, and 582, respectively between 1997 and 2010. Possibly because its close coordination with the region and fishery cooperative, few dropouts exist, except those who leave due to illness, and the dropout rate was only 6.6%.

### (3) Educational activities that place great importance on skills involved in coastal fisheries

The training is composed of three kinds of activities: lectures, seminars, and practical training for qualification acquisition. The curriculum is divided into the prerequisite course and selective courses, 706 hours in total. The former has four subjects to be completed in 700 hours: (1) specialized subjects (319 hours, 45.6%), (2) liberal arts subjects (104.5 hours, 14.9%), (3) subjects for qualification acquisition (240 hours, 34.3%), and (4) others (36.5 hours, 5.2%). The selective course element is to be completed in 6 hours. Characteristically, specialized subjects and subjects for qualification acquisition combined account for 80% of the total hours required in the training institute. This is in clear contrast with most fisheries high schools, where specialized subjects account for less than

50%.

179.5 hours are required for "fishery Technology"<sup>(8)</sup> which teaches students how to build fishing equipment and lets them acquire fish-catching skills at sea: this accounts for 56.3% of the required hours for the specialized subjects (Table 3). Students are also given practical training, including "Fishing Boat and Equipment" and "fishery Processing," clearly showing that the training institute places importance on skills. At the same time, it is noteworthy that the training institute allocates 22.5 hours (7.1%) to lectures on "fishing management," which is vital to operators of coastal fisheries who are asked to run fishing businesses independently.

**Table 3** The details of the major subjects

	Unit time (×60 minutes)	
Fisheries Law	1.5	0.5%
Aquatic animal	10.5	3.3%
Marine Environment	13.5	4.2%
Cultivating Fisheries	18	5.6%
Resource Management	7.5	2.4%
Fishery Processing	24	7.5%
Fishery Management	22.5	7.1%
Fishery Technology	179.4	56.3%
Fishing Boat and Equipment	18	5.6%
Marine Security	4.5	1.4%
Introduction to Fisheries	19.5	6.1%

Reference ; Hokkaido Fisherman Training Institute, Training plan (FY2012).

The training institute allocates many hours to lectures for qualification acquisition, as it does to the specialized subjects. It delivers lectures for the acquisition of eight qualifications that are directly linked to the operation of coastal fisheries. Students are asked to obtain such certifications as first class small craft operator, second class marine radio operator, diver, and class B and class C fourth kind hazardous materials engineer.

It is not unusual for the training institute to entrust outside lecturers and agencies with these diverse lectures and courses, because the existing teaching staff alone cannot deliver them. Cooperation with public agencies such as Hakodate Marine Observatory, Hakodate Local Marine Accident Court, Shikabe Fire Department, and Oshima Public Health and Social Welfare Office, and private companies, such as steelmakers and fishing boat manufacturers, supports the education that the

training institute provides.

(4) **Attributes of trainees and employment trends by region**

Trainees' attributes can reveal something of the character of the training institute. For example, 33 trainees out of 35 in 2012 were from fishing families. This clearly verifies that the training institute is an agency mainly designed to continue and increase the skills of the fishing family. The tendency for most trainees to be from fishing families has remained unchanged since the institute's establishment. However, the number of graduates by hometown reveals the tendencies and characteristics of the training institute. (Table 4)

Of the 582 graduates between 1997 and 2010, the Okhotsk Subprefecture Bureau (formerly Abashiri Subprefecture Bureau) produced the largest number, with 153 graduates, followed by Nemuro Subprefecture Bureau, with 110 graduates, and Soya Subprefecture Bureau, with 72 graduates. All three of these subprefecture bureaus face the Sea of Okhotsk, and the graduates from the top three subprefecture bureaus account for 57.6% of all graduates(9). In addition, the Okhotsk Subprefecture Bureau and the Nemuro Subprefecture Bureau have had a rapid increase in graduate numbers in recent years, as compared with after the early years of the institute's establishment. This rapid increase can be regarded as revealing improved trust in the training institute across the region.

After the Sea of Okhotsk area, the Pacific

Ocean area produced the next largest number of graduates. In the Pacific Ocean area, the Oshima Subprefecture Bureau produced 70 graduates, the fourth largest number from a Subprefecture, Hidaka Subprefecture Bureau produced the fifth largest number, with 64 graduates, and Kushiro Subprefecture Bureau produced the sixth largest number, with 30 graduates. If the Iburi Subprefecture Bureau with 16 graduates and the Tokachi Subprefecture Bureau with 8 graduates are added to the Oshima, Hidata, and Kushiro Subprefecture Bureaus, the areas facing the Pacific Ocean account for 32.3% of the institute's graduates.

In contrast, the area facing the Sea of Japan produced a total of 47 graduates and accounted for 8.1% of all graduates: 24 from the Hiyama Subprefecture Bureau, 14 from the Rumoi Subprefecture Bureau, 7 from Shiribeshi Subprefecture Bureau, and 2 from Ishikari Subprefecture Bureau. It would not be unusual for this area not to produce any graduates in a given year.

A close examination of these results alongside Table 2 clarified a correlation. That is, the better the management condition (employment environment) of the area, the more graduates it produces. The Sea of Japan area, where it is hard to secure successors, produces fewer graduates. In other words, excellent fishery operators in the Sea of Okhotsk area, which is abundant in competitive and stable fisheries, evaluate and utilize the educational activities of the training institute in order to produce new fishery operators<sup>(10)</sup>.

**Table 4** The number of the graduates according to the Subprefectural Bureau

FY	The number of the graduates	Breakdown												
		Ishikari	Shiribeshi	Hiyama	Oshima	Iburi	Hidaka	Tokachi	Kushiro	Nemuro	Abashiri (Okhotsk)	Souya	Rumoi	Unknown
1997	42	0	2	0	6	4	7	0	0	5	10	8	0	0
1998	44	0	0	6	6	0	5	0	6	7	10	4	0	0
1999	48	0	0	6	16	2	4	1	1	5	9	4	0	0
2000	37	0	1	1	7	1	4	0	1	6	9	6	1	0
2001	38	0	1	0	5	2	3	1	0	7	16	3	0	0
2002	46	0	0	1	2	0	5	3	4	6	5	8	0	12
2003	48	0	1	3	2	1	6	2	2	13	10	5	3	0
2004	35	1	1	0	4	1	2	0	0	5	13	7	1	0
2005	43	0	0	2	2	0	4	1	3	10	14	7	0	0
2006	43	0	0	2	4	2	5	0	6	6	13	4	1	0
2007	39	0	0	1	3	0	5	0	4	11	12	3	0	0
2008	46	1	0	1	4	2	7	0	0	6	15	6	4	0
2009	30	0	0	1	3	0	4	0	2	9	8	0	3	0
2010	43	0	1	0	6	1	3	0	1	14	9	7	1	0
Total	582	2	7	24	70	16	64	8	30	110	153	72	14	12

Reference : Hokkaido Fisherman Training Institute, Training Institute Annual Report(FY1997-2010). In addition, the details of FY2002 are unknown.

On the other hand, however, the sea areas suffering from poor fishery management cannot utilize the existence of the training institute effectively. This means that the educational function does not work where fishery operators have already lost the conditions to secure successors from within.

#### **4. Securement of fishery workers by the center project**

##### **(1) The fishery employment fair organized by the Hokkaido Fishery Employment Support Council**

The Hokkaido Fishery Employment Support Council (hereafter referred to as support council), inaugurated in 2009, is currently responsible for the center project in Hokkaido. As the name indicates, the support council is organized by seven associations that support fisheries in Hokkaido, including the Hokkaido Fisheries Association and the Hokkaido Federation of Fisheries Cooperative Associations. It also collaborates with Hokkaido Fishery and Forestry Department and All Japan Seamen's Union.

The major projects of the support council can be divided into three: (1) Information provision for facilitating fishery employment projects, (2) Securement and development of the new workers project, and (3) A qualification acquisition support project. The annual budget for the development of these three projects is 30 million yen, of which about 24 million yen is allocated to the practical training in (2). The budget is completely financed by the national treasury, because the center project is entrusted by the Fisheries Agency.

To be specific, project (1) includes understanding the needs of fishery cooperatives and operators that wish to secure new fishery workers, providing information through various kinds of media, holding short-term fishery experience sessions, and planning and managing the fishery employment fair. The fishery employment fair aims to provide the place for meeting new fishery operators as targeted in (2) and (3).

The fishery employment fair is held in order to create an interface between fishery cooperatives and operators that wish to secure workforce and people who wish to participate in coastal fisheries. In the fair, officials of fishery cooperatives and operators interview I-turn people and U-turn people who wish to become new entrants, and, after reaching mutual agreement on conditions such as the type of fishing that will be learnt and the securement of materials, decide whether or not the interviewees should advance to practical training.

A total of 120 fishery cooperatives participated in the fair held by the support council from December 2009 to June 2012, with a total of 149 attendants. Fishery operators were willing to accept 62 attendants, of whom 41 advanced to practical training<sup>(11)</sup>. The support council sent 63 people to fishing villages, 65.1% of whom made a decision at these fairs.

##### **(2) The training in the center project**

The 63 people who were sent by the support council to villages received training and acquired fishing skills in fishing families, who acted as mentors of the trainee for up to one year at government expense. In the training, trainees study skills and knowledge through the fishermen's routine production activities, such as traveling with them, repair of nets, and shipping. During the training period, rent and living expense are borne by trainees, but municipalities that regard fishing as their key industry provide trainees with several subsidies under titles such as housing support fund and employment support fund<sup>(12)</sup>.

In contrast, national expenditure is paid not to trainees but to the fishery operators that receive them. Each fishery operator receives 1,400,000 yen per trainee per year for employed training and 2,800,000 yen per trainee per year for independent training. Trainees of in employed training are not required to become independent fishers after completing the training, and the receiving fishery operator can employ them after the training. In contrast, trainees in independent training are required



to become self-employed fishers less than one year after completing the training and to earn more than 50% of their income. However, independent training has fewer trainees than the employed training, possibly because trainees think it is hard to acquire the skills necessary for the substantial operation of being an independent fisher in one year of training.

The national expenditure paid to a fishery operator that receives a trainee can be explained from two angles. First, there is compensation to be paid to the receiving fishery operators for their efforts in transferring skills to new entrants, and second is the incentive for the receiving fishery operators to be paid for their efforts to secure employment.

Most fishery operators that utilize the center project cannot secure successors by themselves, and may have a sense of crisis over the survival of fishery and a will to improve the present situation. The center project provides fishery operators in need of some support with a framework for implementing financial support for continuous operation, on the condition that they transfer skills to trainees, in addition to securing workers from outside. Fishery operators that wish to expand their business by securing a new workforce also can use this system, though there are very few fishery operators of this kind. In all cases, the fact remains that new fishermen join the fishery cooperatives and fishing villages, and that fishery production can be expected to increase.

### (3) Results and characteristics of the center project

Regarding the hometowns of the trainees, 53 trainees are from inside Hokkaido (Sapporo sent the largest number, with 18 trainees from the city), and 10 trainees are from outside Hokkaido: 2 from each of Aomori Prefecture, Saitama Prefecture, and Kanagawa Prefecture, and 1 from each of Tokyo, Osaka, Iwate Prefecture, and Hyogo Prefecture. The average age is 31.0 years old. A total of 18 trainees withdrew (with an average age of 34.5

years), excluding the 15 trainees who were still receiving training as of the end of May 2012, and the completion rate was 62.5%. Because five trainees left their jobs after completing their training, the settlement rate to date is 52.1%. As far as the trainees from outside Hokkaido are concerned, both the completion rate and the settlement rate is 75.0%. As compared with the center project in other areas, the center project in Hokkaido is bigger in scale and the settlement rate is relatively good. (Figure 1)

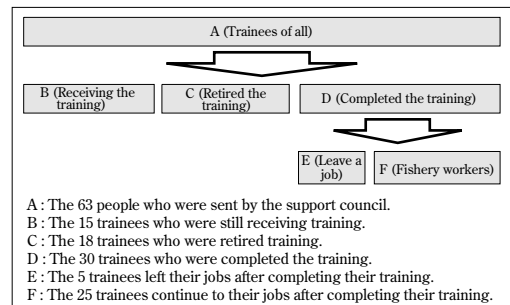


Figure 1 Results of the center project

The center project can be characterized by the number of trainees that are received by the different fishery cooperatives. In descending order from the fishery cooperative that received most, Suttu Fishery Cooperative received 16 trainees, Shinsei Marine Fishery Cooperative received 11, Ishikari Bay Fishery Cooperative received 9, Rishiri Fishery Cooperative received 8, Iburi Funka Bay Fishing Cooperative received 5, Kafuka Fishery Cooperative and Hiyama Fishery Cooperative each received 3, Kitarumoi Fishery Cooperative, Matsu-mae Sakura Fishery Cooperative, and Toi Fishery Cooperative each received 2, and Kamiiso County Fishery Cooperative and Shibetu Fishery Cooperative each received 1. That is, all of these fishery cooperatives are from the Sea of Japan area, except Iburi Funka Bay Fishery Cooperative and Shibetsu Fishery Cooperative from the Pacific Ocean area. In fact, fishery cooperatives for the Sea of Japan area received as much as 90.5% of all trainees.

A close examination of these results alongside Table 2 clarified that the center project gives fish-

ery cooperatives the ability to secure new entrants in the Sea of Japan area, where the management situation (employment environment) is relatively inferior to other sea areas and it is harder for fisheries to secure successors than in the other sea areas. This also complements the weakness of the fishery-training institute mentioned above.

## 5. Conclusion

In this research, by referring to the present situation of the fishery industry in Hokkaido, we have discussed different measures for securing workers for coastal fisheries, with a view to maintaining the fishery industry, which is suffering from declining numbers of workers as a food supply industry. Based on this analysis, we have clarified the following two points.

First, the Hokkaido Fishery Worker Training Institute plays a role in supporting the production activities of excellent fishery operators that are capable of securing successors by specializing in specific education to give skills and professional qualifications necessary for participating in coastal fisheries. Because trainees, who graduated from high schools or colleges, allocate time to acquiring skills and qualification in an educational institute that asks trainees to bear the expense for a certain period, it is necessary for them to be guaranteed secure employment after completing the training, and that their employees have a stable management infrastructure. In this training model, fishery workers are developed with the ability to teach new fishing operators, and this becomes effective under these excellent conditions are organized.

Second, the center project implemented by the support council not only sends new entrants to fishing villages but also supports fishery production by inputting public funds directly to fishery operators with a strong will to continue fishery on the condition that fishery skills are transferred and passed on. Above all, this fishery worker development, financed by a direct fund, is a system that is highly effective in fishing villages that may have

difficulty securing successors from among the fishery operators. Amid the deteriorating management condition of fishing families across the country, this is a well-timed move for fishery worker securement measures to combine the aspect of management support. At the same time, this is also an important policy in the sense of complementing the weaknesses of the institutional development of fishermen.

Based on the above discussions, it is possible to conclude that placing importance on the correlation between development policy, fisheries' production structure, and the management situation of fishery operators, is necessary, and that policy should be selected and constructed taking into consideration the actual situation of the fishery and area in terms of workers and the characteristics of securement measures. In addition, it has been clarified that multiple securement measures that are constructed systematically to complement the strengths and weaknesses of each measure, rather than different measures implemented independently, are required to maintain the fishery industry on such a large scale as the total area of Hokkaido.

## Notice

- (1) Katsuji HIROYOSHI, Masaaki SANO (Eds.). [6].
- (2) Takafumi SASAKI, Haruhiko MIYAZAWA. [7].
- (3) Hokkaido office survey. [5].
- (4) Hokkaido Fishery Worker Training Institute. [2].
- (5) Hokkaido Fishery Worker Training Institute. [3].
- (6) Hokkaido Fishery Worker Training Institute. [4].
- (7) Plural cities and towns support a trainee. Specifically, it is Wakkanai City, Monbetsu City (and Monbetsu fishery cooperative association), Hamanaka Town, Matsumae Town, Fukushima Town, Shikabe Town, and Setana Town. The contents of the support are to pay educational expenses and the traveling expenses.
- (8) Most of practical training are "Technical Intern Training". Specifically, in the training, the trainee learns the making of the fishing gear, and how to catch fish.
- (9) However, it does not take into account for the unknown trainee in FY2002.

- (10) 54.3% of trainees are successors of the aquaculture or fixed netting business in the Okhotsk sea area.
- (11) Hokkaido Fisheries Association. [1].
- (12) In FY2012, 22 cities and towns supported it. The contents of the support are loans of a fishing boat and the house.

## References

- [ 1 ] Hokkaido Fisheries Association. (2012). Data of working support to fishery. (in Japanese)
- [ 2 ] Hokkaido Fishery Worker Training Institute. History of Hokkaido Fisherman Training Institute (Leaflet). (in Japanese)
- [ 3 ] Hokkaido Fishery Worker Training Institute. (2010). Training Institute Annual Report (FY2011). p.1. (in Japanese)
- [ 4 ] Hokkaido Fishery Worker Training Institute. (2012). Entrance Requirements List (FY2012). (in Japanese)
- [ 5 ] Hokkaido office survey. (2011). *HOKKAIDO FISHERIES TODAY 2011*. p.29. (in Japanese)
- [ 6 ] Katsuji HIROYOSHI, Masaaki SANO (Eds.). (2008). *Text for Fisheries Economics*, Hokuto Shobo Co., Ltd. p.98. (in Japanese)
- [ 7 ] Takafumi SASAKI, Haruhiko MIYAZAWA. (2011). Necessity of Development Human Resources in Coastal Fisheries and the Present Situation and Problems of Project to Develop Human Resources, *Journal of North Japan Fisheries Economics*. Vol.39, pp.216-226.