

Future Systems for Japan's Fisheries

**"Systems" mean legislative, strategic, policy and budgetary systems in this report.*

~ To Restore Growth and Vitality of Japan's Fisheries ~

2nd Fisheries Reform Committee

Final Report

(Recommendations)



(Provisional translation)

May 2019

Japan Economic Research Institute

Foreword

The Japan Economic Research Institute's Takagi Committee for Fisheries Reform made an emergency recommendation in February 2007 that "fishery resources shall not be regarded as *bona vacantia* (i.e. no one's property) but shall be regarded explicitly as a common property of Japanese citizens, to conserve the marine environment and effectively utilize fishery resources". In July 2007, the Takagi Committee made a policy recommendation that "strategic and drastic reform of fisheries that conserve Japan's fish-based diet shall be expedited".

Although some 10 years have passed since then, all kinds of indices for Japan's capture fisheries, aquaculture and fisheries industry were not able to get rid of the vicious circle. Under such circumstances, the Fisheries Act was amended in December 2018 for the first time in 70 years. Although some of the Takagi Committee's recommendations in 2007, such as science-based resource management and new entries of entities into aquaculture, were finally materialized, the basic principle was not changed to the one recommended by the Committee that "the seas and fishery resources shall be regarded as a common property of Japanese citizens". Furthermore, as fishing right-based fisheries, which are regarded as an "untouchable sanctuary", remained intact, I cannot help saying that the revised Fisheries Act lacks fundamental reform.

Under such circumstances, the Takagi Committee comprehensively reviewed the fisheries policy and fisheries as a whole since the release of the interim report in July 2018. This final report compiles the results of the Committee's reviews and presents the desirable picture of the future laws and regulations of Japan's fisheries with a basic principle that "the seas and fishery resources shall be a common property of Japanese citizens". At the same time, the Committee presented a timetable for realization of the recommendations.

The Japan Economic Research Institute intends to follow the developments in fisheries industry reform from now with a basic understanding that "food is a source of people's lives" by holding dialogues with a wide range of stakeholders as those dialogues have not been held to date.

I would like to express my sincere gratitude to Mr Yuuki Takagi, Chairman of the Committee, who was involved in the compilation of the report for several times since the 2004 Seto Committee for Agricultural Policy Reform, chaired the Committee smoothly and encouraged active discussions, and to Dr Masayuki Komatsu, Chief of the Bureau of the Committee, who continued to effectively participate in and facilitated the reviews in the Committee following the 2007 Takagi Committee and played a major role in compiling the final report under his restless leadership, to the Committee members who contributed their knowledge and made suggestions open-handedly, and also to the observers and parties concerned who extended their cooperation toward the Committee.

I would like to express my sincere gratitude repeatedly to those members of the Committee who participated in the discussions despite their time constraints such as busy schedule and long distance travelling. They participated in the reviews with a view to restoring the growth and sustainability of Japan's fisheries and the vitality of local fishing communities.

May 2019

Terunobu Maeda

President

Japan Economic Research Institute

2nd Fisheries Reform Committee

List of Members

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List of External Lecturers

Hiroshi TERASHIMA	Councilor, Sasakawa Peace Foundation
Hiroshi IZUMISAWA	CEO, Ajiro Fisheries Co., Ltd.
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Sadao NAKAGAWA	CEO, Nakagawa Gyogyo Ltd.
Taro KAWAMOTO	General Manager, CSR Office, Kyokuyo Co., Ltd.
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Takuma KISO	Special adviser, Japan Economic Research Institute
Nobuhiko TAKEUCHI	Chief Researcher, Japan Economic Research Institute
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Recommendation 1:

Based on the spirit and objective of the United Nations Convention on the Law of the Sea (hereinafter referred to as the “UNCLOS”), it shall be specified in the future legislative system of Japan’s fisheries (i.e. fisheries-related legislation) as a basic principle that the seas and marine living resources are a common property of Japan’s citizens.

Recommendation 2:

It shall be clarified as a basic principle that fishery resources shall be utilized sustainably based on the scientific grounds by stock assessment and efforts shall be made to recover aggravated fishery resources such as Pacific Northern Bluefin tuna and Alaska pollack specifically and promptly as a typical example.

Recommendation 3:

“*Gyogyo-ken*” or fishery licenses through fishermen’s cooperatives, which are non-public organizations, to manage fishery resources which are a common property of Japanese citizens, shall be abolished and a direct license system (not through

fishermen's cooperatives) which is based on the international practices and actual examples shall be introduced for all fisheries and aquaculture.

Recommendation 4:

Excessive fishing capacity shall be eliminated as soon as possible through introduction of Individual Transferable Quotas (ITQs) which are effective in recovering fishery resources and strengthening business/corporate management of fisheries. At the same time, efforts shall be made not to depend on fisheries subsidies by establishing sustainable and independent business/corporate management of fisheries through improvement of profitability.

Recommendation 5:

Japan's domestic policy shall be taken to reflect agreements and ideologies of the international society such as the implementation of the United Nations Sustainable Development Goals (SDGs) and Japan's diplomacy shall respect the framework of the international fisheries treaties. Additionally, policy shall be taken to establish consumer mind concerning conservation and sustainable utilization of fishery resources and the environment. As part of such policy, education and enlightenment of consumers shall be introduced and an appropriate international certification system based on resource management shall be introduced.

Recommendation 6:

The budget allocation for fisheries, which has continued consistently to focus on the projects/programs for coastal fisheries and public works in the postwar period, shall be drastically converted to the budget allocation which meets the present needs such as support for resource management, scientific research, processing and distribution, education and enlightening activities for consumers, etc. At the same time, budgets which respond to such needs shall be increased dramatically.

Recommendation 7:

The current Fisheries Act, which still maintains the vestiges of the old Meiji Fisheries Act, shall be abolished. The new Fisheries Act, new Fisheries Fundamental Act, new Aquaculture Act and Sports Fishing Act (new Recreational Fishing Act) shall be

legislated and enforced as soon as possible under the basic principle that the seas and fishery resources are a common property of Japanese citizens. At the same time, a new and comprehensive fisheries-related legislation shall be established for the establishment of fisheries policy.

Chapter 2: Desirable Picture of Japan's Capture Fisheries, Aquaculture and Fisheries-related Industry

1. Present situation and issues of Japan's fisheries
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3. Economic indices of Japan's desirable future capture fisheries, aquaculture and fisheries-related industry

References

List of Lectures Delivered

(uploaded on <http://www.nikkeicho.or.jp/>, some lectures are not disclosed, affiliations and titles of the lecturers are those at the time of lecture deliveries)

1. “Fisheries in the world and Japan” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
2. “Fisheries management systems in the world and Japan” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
3. “History and management systems of Japan’s Fisheries Act” by Makoto Arisono, Fisheries Analyst and member of the Committee
4. “Present situation and reform of Japanese fisheries” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
5. “Fishing Rights of Licenses through Fishermen’s Cooperatives” by Makoto Arisono, Fisheries Analyst and member of the Committee
6. “Measures taken by fishers in Momoura and Sendai Suisan Co., Ltd.” by Fumiyoshi Shimanuki, Chairman of Sendai Suisan Co., Ltd. and member of the Committee
7. “NISSUI’s entry into aquaculture business and challenges” by Akiyo Matono, President, Nippon Suisan Kaisha, Ltd. (NISSUI) and member of the Committee
8. “Fisheries-related laws (69 laws)” by Tatsunobu Kawasaki, Advisor, The Minato Shimbun, Minato-Yamaguchi Co., Ltd. and member of the Committee
9. “Developments in international conventions, laws and measures concerning sustainable utilization of the ocean and marine resources by Hiroshi Terashima, Councillor, Sasakawa Peace Foundation
10. “UNCLOS/UNIA and domestic responses” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
11. “The present situation of and challenges for fixed-net fisheries” by Hiroshi Izumisawa, CEO of Ajiro Fisheries Co., Ltd.
12. “Background of why a senior official of Hokusho Gyogyo Co., Ltd. competed in bidding to revoke the company’s license for fixed-net salmon fisheries for the sake of good and healthy management although Hokusho Gyogyo Co., Ltd. operated fixed net fisheries with a license priority through fishermen’s cooperatives over

- many years” by Etsuo Nakamura, President of Hokusho Gyogyo Co., Ltd.
13. “Resource management of northern shrimps with IQs” by Sadao Nakagawa, CEO of Nakagawa Gyogyo Ltd.
 14. “Situation of IQs for northern Pacific purse seine fisheries” by Tetsuo Fukushima, CEO of Fukushima Gyogyo Co., Ltd.
 15. “Introduction of IQs and analysis of entrepreneurial management of northern Pacific purse seine fisheries” by Makoto Arisono, Fisheries Analyst, and member of the Committee
 16. “ITQs in the world and Japan” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
 17. “Licensing system for large- and medium-scale purse seine fisheries” by Taro Kawamoto, General Manager of the CSR Office, Kyokuyo Co., Ltd.
 18. “Hagi Oshima Sendan-maru (medium-scale purse seiner)/GHIBLI Co., Ltd.” by Tomoyoshi Tsubouchi, CEO of Hagi Oshima Sendan-maru/GHIBLI Co., Ltd.
 19. “Japan’s fisheries licensing system” by Makoto Arisono, Fisheries Analyst and member of the Committee
 20. “Distribution of fisheries products and fisheries resource management” by Eisuke Urawa, Senior Managing Director of the Tokyo Fisheries Products Wholesalers Association and member of the Committee
 21. “Present situation and license system of salmon and trout aquaculture in Chile” by Toshiya Yaashi, General Manager of the Aquaculture Business Promotion Department, Nippon Suisan Kaisha, Ltd. (NISSUI)
 22. “Aquaculture in Japan and the world” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
 23. “Outline of salmon aquaculture in Norway” by Yasumasa Kashiwagi, Director and General Manager of the Perishables Division, Mitsubishi Corporation, and member of the Committee
 24. “Brief summary of trade in fisheries products” by Masayuki Yano, President of Benirei Co., Ltd. and member of the Committee
 25. “Issues concerning exports and imports and proposal for improvement” by Akiyo Matono, President of Nippon Suisan Kaisha, Ltd. (NISSUI) and member of the Committee
 26. “Trade in fisheries products” by Ken Sakai, Senior Managing Director of Kyokuyo

- Co., Ltd. and member of the Committee
27. “Mitsubishi Corporation’s view concerning trade in fisheries products” by Yasumasa Kashiwagi, Director and General Manager of the Perishables Division, Mitsubishi Corporation, and member of the Committee
 28. “Fishery processing industry” by Yoshiaki Nakayama, Chairman of the National Federation of Fishery Processors’ Cooperative Associations
 29. “Present situation of and challenges for the fishery processing industry” by Takeshi Sagesaka, Managing Director of the National Federation of Fishery Processors’ Cooperative Associations
 30. “Trends in the fishery processing industry” by Tatsunobu Kawasaki, Advisor to the Minato Shimbun Minato-Yamaguchi Co., Ltd., and expert member of the Committee
 31. “Present situation, challenges and prospects of international negotiations and domestic regulations for overseas purse seine fisheries” by Akihiro Kawaguchi, Director and General Manager of the Business Operation Department, Kyokuyo Co., Ltd.
 32. “Status quo of tuna and skipjack fisheries in the Central and Western Pacific” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
 33. “Sports fishing in the world” by Yoichi Motegi, President of the Group to Conserve Aquatic Life Resources and the Environment
 34. “Expectations for ‘Eco-labelling of fisheries products’ and challenges” by Naoya Kakizoe, Chairman of the Marine Eco-label Japan Council
 35. “Present situation and future of Japan’s seafood sustainability” by Isao Sakaguchi, Professor of the Department of Law, Gakushuin University
 36. “Outline of the Norwegian Fisheries Products Council (NSC) and report of Japanese-version seafood study survey” by Gunvar Wie, Director – Japan and ROK, Norwegian Fisheries Products Council
 37. “What retailers can do to succeed the culture of fish-based diet to hand over valuable fishery resources to the next generation” by Mitsuko Tsuchiya, President of Bio c’Bon Japan Co., Ltd. and member of the Committee
 38. “Fisheries industry from the point of view of regional areas and regional banks” by Shinobu Tamura, Director and General Manager of the Regional Collaboration

Business Support Department, The Bank of Kochi, Ltd. and member of the Committee

39. “Desirable picture of scientific survey and resource management” by Masayuki Komatsu, Senior Fellow of the Tokyo Foundation and Chief of the Committee
40. “Methods and systems for scientific resource survey” by Toshio Katsukawa, Associate Professor of Tokyo University of Marine Science and Technology

September 2017

Prospectus

Specific Picture of Fisheries-related Legislative Systems for New Capture Fisheries and Fisheries Industry Should be Presented

~to Restore Growth and Vitality of Capture Fisheries and Fisheries Industry~

Japan Economic Research Institute
2nd Fisheries Reform Committee
Chairman Yuuki Takagi
Chief Masayuki Komatsu

The Japan Economic Research Institute made recommendations that “drastic reform of the fisheries industry should be expedited strategically to retain fish-based diet in Japan” in February 2007 and that “the new fisheries industry should be created after the East Japan Great Earthquakes” in June 2011 following an emergency recommendation in February 2007 which was made with a basic understanding that “food is a source of our life”.

As a result, IQs were introduced in Niigata Prefecture, a special fishing zone was established in Miyagi Prefecture, and IQs were introduced for trial in the Minister-licensed North Pacific purse seine fisheries. These measures were taken in accordance with the above-mentioned recommendations although limitedly.

Under the present situation, however, there is no sign for improvement because of the vicious circle of fisheries production, distribution, processing and consumption of fishery products, which was pointed out about 10 years ago. This actual situation explains that the government is not able to respond to the real voices of fishers and citizens who wish to restore the growth and vitality of the capture fisheries and fisheries industry. Furthermore, parties concerned do not share an awareness of the issue of the vicious circle. Consequently, Japan has not taken the initiative and has not responded

positively to the UNCLOS and sustainable development of the international society and the environment.

Indeed, it is questioned whether or not Japan's existing laws and regulations are sustainable and effective at present and, of course, in the future.

We, therefore, present a desirable future picture of the basis for Japan's laws and regulations by thoroughly analyzing and verifying the present situation referring to the implementation situation of the recommendations which we made to date.

21 May 2019

Japan Economic Research Institute
2nd Fisheries Reform Committee
Chairman, Yuuki Takagi
Chief, Masayuki Komatsu

Future Systems* for Japan's Fisheries

~ To Restore Growth and Vitality of Japan's Fisheries ~

2nd Fisheries Industry Reform Committee Final Report (Recommendations)

**In this report, "systems" mean legislation, strategies, policies and budgets.*

Chapter 1: About Final Report (Recommendations)

The 2nd Fisheries Reform Committee (established on 29 September 2017) has held meetings for 18 times until April 2019 to thoroughly analyze the present situation and examine the existing fisheries-related policies, laws and regulations. During this period, the Committee made "interim recommendations" (seven recommendations) in July 2018 concerning the establishment of the new laws and regulations on the premise that "the seas and fishery resources are a common property of Japanese citizens". After the release of the interim recommendations, the Committee focused on comprehensive discussions on Japan's fisheries as a whole beyond the conventional discussions which mainly focused on coastal fisheries, aquaculture and fishermen's cooperatives.

The Committee expresses a concern that Japan’s fisheries administration and budget for “fisheries” focus only on coastal fisheries and aquaculture, fishermen’s cooperatives and public works for coastal fisheries such as construction of fishing ports and landing facilities. As there is no policy which covers fisheries as a whole, measures for trade, import and export systems and measures for import and export, the 2030 target by the United Nations Sustainable Development Committee (United Nations Sustainable Development Goals; SDGs), international certification systems, international fisheries negotiations, fishery distributions, fishery processing, consumption and education have been neglected. Under this situation, it is impossible to establish effective fisheries policy (for the fisheries as a whole, not just focusing on coastal fisheries). At the end of 2018, the Japanese Government amended the Fisheries Act with a view to turning Japan’s fisheries into a growth industry. The legislative amendments, however, maintained the outdated “*Gyogyo-ken*” (*Fishery rights provided by fishermen’s cooperatives) or fishery licensing through fishermen’s cooperatives for coastal fisheries and aquaculture.

Taking account of these amendments, this final report examined the fisheries policy and the fisheries industry as a whole after the release of the interim recommendations to further improve the interim recommendations and, at the same time, referred to the assessment of the amended Fisheries Act. Based on that, the final report presents a more specific picture of the new fisheries legislation system (i.e. “desirable picture”) and also presents a timetable for five years and 10 years from now to transfer the existing system to the “desirable system”. This final report also presented a target which should be achieved and details of the target.

Japan Economic Research Institute 2 nd Fisheries Industry Reform Committee Interim Recommendations (July 2018)

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| <ul style="list-style-type: none"> ■ Recommendation 1: It shall be specified in legislation that the seas and fishery resources are a common property of Japanese citizens. ■ Recommendation 2: Fishery resources shall be thoroughly and sustainably utilized based on the scientific grounds to recover aggravating resources immediately. At the same time, the ocean and fishery resources shall be |
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conserved and managed in an open manner to the general public.

- Recommendation 3: The existing “*Gyogyo-ken*” or fishery licenses through fishermen’s cooperatives shall be abolished and direct licensing without involving fishermen’s cooperatives shall be introduced for all fisheries and aquaculture.
- Recommendation 4: Individual Transferable Quotas (ITQs) shall be introduced to eliminate excessive fishing capacity as soon as possible and entrepreneurial management of fisheries shall be made into a sustainable and independent one.
- Recommendation 5: Trends in the international society shall be reflected and consumer minds shall be established.
- Recommendation 6: The fisheries budget shall be rearranged and reallocated drastically.
- Recommendation 7: The existing Fisheries Act shall be abolished and a new act, laws and regulations shall be introduced.

◇ **Background and major pillars of the final report (recommendations)**

1. The amended Fisheries Act of December 2018 still maintains the vestiges of the old Meiji Fisheries Act

When we see the overseas systems after the effectuation of the UNCLOS, national governments or state governments (equivalent to prefectural governments in Japan) are consigned by the citizens to manage fishery resources objectively under the Constitution, Fisheries Act and fisheries policy which signify that the seas and fishery resources are a common property of citizens. In other words, sustainable and continuous management of fishery resources in a transparent manner based on the scientific grounds is a base for everything. In Japan, on the contrary, the outdated Fisheries Act and related laws and regulations, which are based on fishermen’s agreements through consultations between fishermen not based on science (so-called “voluntary restraints”) and securing of fishing grounds (so-called “territories”) under fishermen’s cooperatives still remain even after the ratification of the UNCLOS. Although the Fisheries Act was amended for the first time in 70 years, it is a legislative amendment after Japan’s ratification of the UNCLOS in 1996. For this reason, the amended act should reflect the contents of the UNCLOS. Nevertheless, it was made clear that the amended Fisheries Act maintains and, at the

same time, continues to strengthen the fishery licensing system which is originated from the old Meiji Fisheries Act. (Refer to Reference 7, “Comparison of the revised Fisheries Act concerning fisheries and resource management and reform proposals (recommendations).”)

2. Assessment of the amended Fisheries Act

The amended Fisheries Act that does not reflect the spirit and objective of the UNCLOS:

The amended Fisheries Act which was enacted in December 2018 is far from the fundamental spirit and objective to recover the growth and vitality of Japan’s capture fisheries and fisheries industry, does not reflect the spirit and objective of the UNCLOS and may go against what the Act aims to achieve. The major issues of the amended Fisheries Act are pointed out as follows.

- 1) The mission of fisheries to supply fishery products to the citizens was newly added to the objective of the amended Fisheries Act. Whereas the most important and urgent challenge is to recover Japan’s aggravated fishery resources and achieve sustainable fisheries promptly. This is the major premise to achieve the mission, however the amended Fisheries Act does not specify that “the seas and fishery resources are a common property of Japanese citizens”, which is the spirit and the objective of the UNCLOS. The ocean and fishery resources need to be managed based on the scientific grounds by the national and prefectural governments under the delegation by the citizens based on this major premise. If the present situation remains intact, the conventional view that fishery resources are “*vona vacantia*” (i.e. no one’s property) will be followed and fishers and administrators will continue the conventional operations and practices which pay little attention to sustainable utilization of fishery resources and realization of fishery production at the maximum level. As the legislative amendments this time lack substantive parts and a schedule for specific improvements does not exist, aggravation of fishery resources and capture fisheries will be accelerated if measures for improvement are not taken in accordance with the recommendations.

- 2) The amended Fisheries Act stipulates that Individual Quotas (IQs) shall be introduced sequentially from those species about which negotiations between fishers are concluded. It, however, does not stipulate specific details for the introduction of IQs, fisheries and fish species to be managed by IQs and a schedule for introduction of IQs at all. Additionally, the amended Fisheries Act stipulates that IQs are able to be transferred with the transfer of fishing vessels or between those fishers who are granted IQs within the same financial year by obtaining permissions from the national or prefectural governments. If there are many fish species which are not managed by IQs, it is impossible to transfer non-IQ-managed fish species. For example, as IQs are not established for fish species other than mackerel in North Pacific purse seine fisheries, transfer of sardine and anchovy is not possible. The amended Fisheries Act denies the introduction of original Individual Transferable Quotas (ITQs) although they are effective in improving and rebuilding business management of fisheries. On the other hand, only few countries in the world use IQs in reality and ITQs are introduced instead because they are relatively efficient through rationalized investment and cost reduction.
- 3) The UNCLOS stipulates that the coastal State exercises the rights and responsibility of conservation and management of marine and fishery resources within its exclusive economic zone. Article 55 (Specific legal regime of the exclusive economic zone), Article 56 (Rights, jurisdiction and duties of the coastal State in the exclusive economic zone), Article 61 (Conservation of the living resources) and Article 62 (Utilization of the living resources) of the UNCLOS stipulate that the coastal State, i.e. the national government or state government (prefectural government), shall conserve and manage fishery resources appropriately taking account of the best scientific evidence which is available for the state. On the contrary, despite the stipulations of the UNCLOS, Japan maintains the licensing system through fishermen's cooperatives (which are non-public organizations) and fishermen's cooperatives continue to maintain the role of managing fisheries and fishery resources even under the amended Fisheries Act. Fishermen's cooperatives, however, are not capable of collecting catch data or scientific resource management. Under this situation, it is impossible to undertake international standard stock assessment and implement resource management that are advocated by the government.

The amended Fisheries Act abolishes/rescinds the priority of licensing for the purpose of facilitating new entries into aquaculture. However, the new terms and conditions of the amended Fisheries Act (i.e. “when the existing holders of fishery licenses or “*Gyogyo-ken*” appropriately and effectively utilize the waters, they shall be allowed to utilize the waters continuously”) may confuse both of those who want to make new investment and others who want to keep their status quo. The amended Act on this part, therefore, may rather hinder new investment and new entrants.

- 4) In regard to the conservation and management of fishery resources, the amended Fisheries Act stipulates that fishery resources shall be managed by the allowable catch based on stock assessment and resource management by the TAQ shall be undertaken on a managed-area basis with a basic principle that the standards which are able to realize MSY (Maximum Sustainable Yield) shall be maintained and recovered. However, obligations were not imposed on the coastal fisheries and prefectural governor-licensed fisheries to collect the most important catch data. If that is the case, it is basically impossible to undertake stock assessment appropriately. There are, therefore, very few fish species for which stock assessment is conducted and for which TAC (Total Allowable Catch) is established.
- 5) It was decided by the amendment to introduce new regulations under which fishermen’s cooperatives are able to manage coastal fishing grounds to conserve and improve the coastal fishing grounds on the condition that they obtain approvals from the prefectural government. It is, however, necessary to explain the reason that is able to justify such assignments given to fishermen’s cooperatives although they are not capable of scientific resource management. By this amendment, fishermen’s cooperatives are able to request companies and new entrants that are not their members to partially bear the estimated costs for conservation activities without any appropriate reasons. According to the UNCLOS, only the national or state governments (prefectural governments) are able to collect management costs. By the introduction of such a system, it is concerned that interventions into companies and individuals by fishermen’s cooperatives will be accelerated further,

business/corporate management of fisheries by those companies and individuals may be suppressed and deterioration in the coastal fisheries will be accelerated further.

As explained above, the amended Fisheries Act involves many issues and, therefore, drastic and complete overhaul of the Fisheries Act is requested.

For this reason, the only and quick method for restoration of fisheries is to abolish the amended Fisheries Act which contains the vestiges of the old Meiji Fisheries Act. As in the case of other countries which recovered fisheries by respecting the spirit and objective of the UNCLOS, “the seas and fishery resources are a common property of Japanese citizens” should be the basic axis of the system.

3. Improvement of the interim recommendations

The Japan Economic Research Institute’s 2nd Fisheries Reform Committee compiled the final report (recommendations) by improving the interim recommendations further. The Committee improved the seven interim recommendations further by examining the present situation and desirable situation of trade in fisheries products, Japan’s import and export systems and fishery processing industry, present situation of overseas fisheries, international regulations and negotiations, present situation and international comparison of sports fishing (recreational fishing), SDG14 (Conserve and sustainably use the oceans and marine resources for sustainable development), international and domestic certification systems, scientific survey and stock assessment, fisheries industry from the point of view of regional economies, etc. The Committee added the new supplementary recommendations to the seven recommendations and compiled the final report (recommendations).

As expressed by the prospectus, the final report (recommendations) specified the important points of the new fisheries policies, laws and regulations under the objective “to present the specific picture of the new policies and the legislation system” and presented a schedule by explaining the reasons for the important points and methods for implementation of the new legislation.

4. Basic points of view in constituting the final report (recommendations)

- 1) The principle of freedom of the high seas under the 1958 Geneva Conventions on the Law of the Sea was shifted toward the world model after the effectuation of the UNCLOS in 1982 that “marine fishery resources shall not be no one’s property but shall be a common property of the citizens of the coastal state”. This should be made well known among the citizens. The common property of the citizens should be managed by the national or prefectural governments under the consignment by the citizens of the nation or prefecture in a fair and equitable manner with responsibility based on the scientific grounds.
- 2) Japan’s fisheries policy focused on coastal fisheries that involved an overwhelmingly large number of fishers and also focused on the measures for fishermen’s cooperatives since the Meiji period. However, as the fisheries cover a wide range of sectors including capture fisheries, aquaculture, distribution and processing, fisheries policy should respond to the needs of a wide range of sectors and should give benefits to the citizens as a whole.
- 3) The government policy for the implementation of the amended Fisheries Act lacks a specific schedule and a goal. The government should, therefore, present a “desirable picture” of the future fisheries and formulate and implement a policy and a legislation system to realize it.
- 4) The government should establish a “really comprehensive fisheries policy” with a broader view shifting from the policy for coastal fisheries. In order to achieve this goal, a mechanism is needed to conduct research and assess fisheries policy and economy from the medium- to long-term viewpoint.

Although the Japanese Government has neglected to pay full attention to the international conventions and agreements such as the UNCLOS, UNIA and SDGs to date, establishment of the Fisheries Act and policies in accordance with those international conventions and agreements may stop the deterioration of Japan’s fisheries, recover fishery resources and achieve sustainable utilization of fishery resources.

Under this direction, the final report (recommendations) referred to the broader and specialized consideration by the Committee and included comprehensive and

specialized details from these viewpoints. The final report (recommendations) is as follows:

Japan Economic Research Institute 2nd Fisheries Reform Committee Final Report
(Recommendations) = Gist of the New Fisheries-related Legislative Systems

- Recommendation 1: Based on the spirit and objective of the UNCLOS, it shall be specified in the new legislation system for fisheries (i.e. all fisheries-related legislation) as a basic principle that the seas and fishery resources are a common property of Japanese citizens.
- Recommendation 2: It shall be clarified as a basic principle that fishery resources shall be utilized sustainably based on the scientific grounds by stock assessment and efforts shall be made to promptly recover aggravated fishery resources such as Northern Pacific Bluefin tuna and Alaska pollack off Hokkaido specifically as a typical example.
- Recommendation 3: “*Gyogyo-ken*” or fishery licenses through fishermen’s cooperatives, that are non-public organizations, to manage fishery resources which are a common property of citizens shall be abolished and a direct license system not through fishermen’s cooperatives shall be introduced for all fisheries and aquaculture in accordance with the international practices and actual examples.
- Recommendation 4: Excessive fishing capacity shall be eliminated as soon as possible through introduction of Individual Transferable Quotas (ITQs) which are effective in recovering fishery resources and strengthening business/corporate management of fisheries. At the same time, efforts shall be made not to depend on fisheries subsidies by establishing sustainable and independent business/corporate management of fisheries through improvement of profitability.
- Recommendation 5: Japan’s domestic policy shall be taken to reflect agreements and ideologies of the international society such as the implementation of the United Nations Sustainable Development Goals (SDGs) and Japan’s

diplomacy shall respect the framework of the international fisheries treaties. Additionally, policy shall be taken to establish consumer mind concerning conservation and sustainable utilization of fishery resources and the environment. As part of such policy, education and enlightenment of consumers shall be introduced and an appropriate international certification system based on resource management shall be introduced.

- Recommendation 6: The budget allocation for fisheries, which has continued consistently to focus on the projects/programs for coastal fisheries and public works in the postwar period, shall be drastically converted to the budget allocation which meets the present needs such as support for resource management, scientific research, processing and distribution, education and enlightening activities for consumers, etc. At the same time, budgets which respond to such needs shall be increased dramatically.
- Recommendation 7: The current Fisheries Act, which still maintains the vestiges of the old Meiji Fisheries Act, shall be abolished. The new Fisheries Act, new Fisheries Fundamental Act, new Aquaculture Act and Sports Fishing Act (new Recreational Fishing Act) shall be legislated and enforced as soon as possible under the basic principle that the seas and fishery resources are a common property of Japanese citizens. At the same time, a new and comprehensive fisheries-related legislation shall be established for the establishment of fisheries policy.

Recommendation 1:

Based on the spirit and objective of the UNCLOS, it shall be specified in the new legislation system for fisheries (i.e. fisheries-related legislation) as a basic principle that the seas and fishery resources are a common property of Japanese citizens.

In accordance with the spirit and objective of the UNCLOS adopted in 1982, the coastal State undertakes scientific management of marine living resources as its rights and duties (UNCLOS Article 61 and Article 62) within the exclusive economic zone which the government of the coastal State established and has jurisdiction (UNCLOS Article 55 and Article 56). In other words, the objective of the 1958 Geneva Conventions on the Law of the Sea was converted and the direction was established that the government of each state has a mandate from their citizens, who have ownership of the marine living resources, to manage their marine living resources. The constitutions of Brazil, Ecuador, South Africa, the Republic of Korea and others, the Fisheries Act of Iceland and state fisheries acts of Alaska and Australian states, which were enacted or amended before or after the effectuation of the UNCLOS, clearly stipulate it. Additionally, the US legislation stipulates that fishery resources are *bona vacantia* (i.e. no one's property), but does not allow prior occupation. The national government and state governments have a mandate from their citizens to manage fishery resources.

The Japanese Civil Law (Article 239) stipulates that ownership of movables without an owner shall be acquired by possessing the same with the intention to own. However, as Japan ratified the UNCLOS in 1996, we need to convert our thought and system fundamentally that the national government shall manage fishery resources having a mandate from the Japanese citizens.

In other words, if we do not regard fishery resources as “no one's property” as stipulated by the Civil Law but regard them as “natural fruits” (Civil Law Article 88 and Article 89), it is possible to interpret that “the seas and fishery resources are a common property of Japanese citizens”. In order to have this interpretation, following measures are necessary:

- 1) It is important to specify in the preface and Article 1 (Objective) of the new Fisheries Act and the new Fisheries Basic Act that “the seas and fishery resources are a common property of Japanese citizens”. Additionally, in relation to this stipulation, a relevant article shall stipulate that “the seas and fishery resources be managed scientifically and sustainably and necessary legal, institutional, organizational and budgetary measures be taken promptly”. “Establishment of the marine conservation areas and promotion of marine and fisheries education” shall be clearly stipulated.
- 2) The national and prefectural governments shall have responsibility to conserve and effectively utilize the ocean and fishery resources as they manage the ocean and fishery resources having a mandate from Japanese citizens. Users of the sea surfaces and fishery resources including fishers and aquaculture operators shall have obligation to make effort to maximize the benefits of utilizing those resources. Furthermore, resource rents shall be collected from them in exchange for the use of the common property of Japanese citizens based on the view which is different from corporate tax and income tax.
- 3) Harvesting fishery resources by foreigners and foreign corporations within Japan’s 200 nautical mile zone shall be banned in principle. Those who undertake capture fisheries or aquaculture by obtaining licenses for capture fisheries or aquaculture (i.e. catch quota or allowable aquaculture volume) shall be limited to Japanese corporations or Japanese nationals. Foreign investment in those Japanese corporations shall not exceed 25%. These rules correspond to the rules for government control on the investment in natural resources and exceptional measures for investment which are stipulated in Chapter 9 of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (TPP11).

Recommendation 2: It shall be clarified as a basic principle that fishery resources shall be utilized sustainably based on the scientific grounds by stock assessment and efforts shall be made to promptly recover aggravated fishery resources such as Northern Pacific Bluefin tuna and Alaska pollack off Hokkaido specifically as a typical example.

1) Collection/submission of catch data and obligation for submission by fishers

Catch data shall be regarded as an asset of the citizens of the nation and prefectures and the new Fisheries Act shall impose obligations on all types of fisheries including coastal fisheries to submit catch data as a duty.

It is impossible to conduct stock assessment without having catch data. Stock assessment was not conducted for coastal fisheries and non-scientific measures such as voluntary regulation of fishery resources by fishers were accepted under the Marine and Fishery Resources Development and Promotion Act. When artificial intelligence (AI) is introduced in the future, AI can only function on the condition that catch data are furnished. Analysis and assessment of fishery resources are possible with the existence of catch data and fishery resources are able to be managed by obtaining catch data. It is possible to establish not only ABC (Allowable Biological Catch) but TAC (Total Allowable Catch) and to introduce IQs and ITQs on the condition that stock assessment is conducted based on catch data. It is possible to impose obligation on fishers to submit catch data immediately by amending the Ordinance of the Ministry of Agriculture, Forestry and Fisheries (or endorsement on the fisheries license) and by amending prefectural rules for fisheries adjustment. It is, however, important to establish such an obligation and require submission of catch data under the legislation. The Agreement on Port State Measures to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing (PSMA) took effect in June 2016 with a view to preventing illegal, unreported and unregulated fishing (IUU). By the effectuation of PSMA, port states require their own fishing vessels to submit catch data and catch volume from the point of view of fairness.

- 2) Appropriate methods for stock assessment shall be selected by taking account of special characteristics and migration ranges of the fish species and also by taking account of the availability of catch data and scientific data as its purpose is to recover and maintain fishery resources. One method has a target of MSY (Maximum Sustainable Yield) and the other is operated by HCR (Harvest Control Rules). Under the HCR, a target standard for stock recovery is set, harvest volume to reach the target standard over several years is calculated and the catch rate is set by 10% or 15% according to the resource volume.

In either case, it is important to set and fix a target period for recovery (for example, in three years' time) by MSY or HCR by the publicly authorized committee and the government should not make changes by its own judgement singlehandedly. The government should not change the target and methods for resource recovery, which were already adopted, in response to fishers' requests. The government has lowered the recovery level of parental biomass and extended the period for recovery from three years to 30 years to date for example.

- 3) **Formulation and adoption of the Fisheries Management Plan (FMP)**

The Regional Fisheries Management Committee (provisional name) shall formulate a harvesting plan and a resource recovery plan by fish species learning from the US and Australia. Appropriate target standards for catch volume and stock volume (F_{target} and B_{target}) and the limit for catch volume and stock volume (F_{limit} and B_{limit}) shall be set by fish species and by local stock by specifying the sea areas, which are stipulated by the UNCLOS and UNIA. Additionally, when the stock level is below the B_{limit} (approximately 10% of the initial stock level), fishery shall not be conducted at all. The Fisheries Management Plan shall stipulate that the Regional Fisheries Management Committee (provisional name) examine and decide the definition of overfishing and review and monitor the recovery plan and the harvesting plan. Those plans are formulated by the scientific stock assessment and advice submitted by the Regional Fisheries Scientific Research Center (provisional name).

4) Stock assessment shall be conducted and also TAC after the stock assessment shall be introduced in accordance with the distribution and characteristics of biological resources. Precision of resource analysis and stock assessment shall be improved. As sufficient survey is not conducted on the age and natural mortality rate (M) of spawning stock at present, decisions of collecting figures are made arbitrarily or provisionally. Data shall be collected scientifically by reflecting differences among fish species and changes according to age. Learning from the major fisheries nations in Europe and the US, the number of fish species for stock assessment shall be increased. Stock assessment shall be conducted for 100 fish species and stocks within two years and for 400 fish species and stocks within five years. Experts and scientists specializing in mathematical statistics and resource dynamics, who conduct stock assessment, need to be increased. Furthermore, it is important to have scientists from advanced nations of fisheries stock assessment such as the US and Scandinavian nations participate in all of the stock assessment processes for each fish species.

5) Demarcation of sectors handled by the national government and prefectural governments

The sectors handled by the government organizations such as the Japan Fisheries Research and Education Agency (FRA), Fishery Research Laboratories and prefectural government organizations shall be clearly demarcated. Basically, fishery resources within the three nautical miles (approximately 5.6 km) shall be handled by prefectural government organizations, while fishery resources outside the three nautical miles shall be surveyed and assessed by national government organizations. In regard to the fishery resources that migrate and distribute in more than one prefecture, national government organizations and prefectural organizations shall be responsible for stock assessment. As prefectural fisheries research organizations are increasingly merged with agricultural organizations or other industry organizations, it is difficult to secure a fisheries budget. For this reason, the budget and the number of personnel for fisheries research shall be set clearly.

**6) Establishment of the Regional Fisheries Scientific Research Center
(provisional name)**

Learning from the example in the US, sea areas for scientific research shall be set on a region-by-region basis as follows: (1) The Sea of Okhotsk (including Shiretoko, Rishiri and Rebun); (2) Northern Pacific (from the Pacific Ocean off Hokkaido to Chiba Prefecture Nozaki); (3) Northern part of the Sea of Japan (from Wakkanai to the northern part of Toyama Bay); (4) Southern part of the Pacific Ocean (from the Pacific Ocean other than (2) to Okinawa); (5) Southern part of the Sea of Japan (from the eastern part of Toyama Bay to off Kakujima Island of Yamaguchi Prefecture); and (6) East China Sea. Research centers shall be established for each sea area.

7) Application of precautionary approach

The UNIA and the FAO's international code of practice for responsible fisheries acknowledged the application of precautionary approach for uncertainty of bioecological, economic and social processes. Basically speaking, when information concerning fishery management measures, management organizations and resources levels/volume is insufficient, in particular in the case of open access, it results in over catching of resources. When TAC is decided under such circumstances, precautionary approach shall be applied.

8) Deterioration of marine ecosystems and consideration of global warming

- ① By the industrialization and development of residential areas, Japan has lost many of the natural coasts, wetlands, brackish waters, seaweed beds and tidal flats which are habitats for fish and breeding grounds for eggs and juvenile fish. It is estimated that the present area of wetlands, marshes, sand bars and seaweed beds is only about 50% of that in the late 1980's in the Seto Inland Sea for example. Loss and deterioration of coastal areas and marine ecosystems will result in the reduction of biodiversity and quantity of living creatures. In the research of the ocean and fisheries, Japan is behind other countries in the research on aggravation of marine ecosystems caused by the development activities by humans and in regard to policy responses. On the other hand, during the UN Summit in September 2015, the United Nations adopted that 17 SDGs, including SDG14 (Conserve and sustainably

use the oceans, seas and marine resources for sustainable development), be achieved by 2030, as a successor of the Millennium Development Goal which was set in 2001. However, Japan's responses in the fisheries research sector as well as policy responses are on a delay. SDG14 requires that marine and coastal ecosystems be sustainably managed and conserved to avoid significant adverse impacts (14.2) and fisheries and aquaculture be managed sustainably to accommodate marine ecosystems (14.7). Without recognizing the changes in marine ecosystems and measures for improvement, fisheries and aquaculture will decline.

- ② SDG15 (Protect, restore and promote sustainable use of terrestrial ecosystems) requires conservation and sustainable use of terrestrial ecosystems. The agricultural and livestock industries use a large amount of agricultural chemicals and fertilizers, excrement and urine flow into the ocean through rivers and underground water, both agricultural water and clean water are taken and sewage is released to the ocean. These factors place a load and pressure on marine ecosystems. Furthermore, river waters run straight to the ocean as a result of river revetment constructions and, as a result, coastal ecosystems are affected. Although those river revetment constructions are for the purpose of preventing natural disasters, water which flows into rivers increase in the case of heavy rain, while water volume and nutrition in river water are insufficient in normal times. Living creatures lose their habitats by the river revetment constructions and raising of land by obtaining earth from mountains and logging trees in mountainous areas. As broad-leaf tree forests were converted into coniferous tree forests and as those coniferous tree forests were left as they were, the majority of forests remain as coniferous tree forests which hold less amount of water compared to broad-leaf tree forests.
- ③ The increase in sea water temperatures and progress of ocean acidification force various kinds of fish species to move to cold waters. Those fish species that are not able to move to cold waters will reduce or extinct. Measures shall be taken to identify the diversified factors of this issue and to resolve the issue. Multidisciplinary approaches are necessary. For example, researchers and scientists are requested to be highly professional and knowledgeable. At the same time, it is more important to acquire multidisciplinary and highly professional

knowledge by inviting a wide range of experts from many different sectors.

④ **Response to SDGs**

Japan's response to the United Nations' SDGs is behind other countries. It is, therefore, necessary to comprehensively analyze and assess the impacts of these factors, both terrestrial and marine, on fisheries and fishery resources by utilizing highly specialized expertise of several different sectors. Survey and research shall be conducted as soon as possible focusing on the elements and functions of terrestrial and marine ecosystems.

Recommendation 3:

“Gyogyo-ken” or fishery licenses through fishermen’s cooperatives, which are non-public organizations, to manage fishery resources which are a common property of Japanese citizens, shall be abolished and a direct license system (not through fishermen’s cooperatives) which is based on the international practices and actual examples shall be introduced for all fisheries and aquaculture.

Sustainable development, improvement of business/corporative management and competitiveness of aquaculture are limited under the license through fishermen’s cooperatives, which is exclusive and prioritizes small-scale management of fisheries. It is basically impossible for aquaculture to survive as an industry without scientific management of sea areas and sustainable business/corporative management (i.e. profitable management). For this reason, aquaculture shall be converted from the fishery license through fishermen’s cooperatives to direct-license by the prefectural government without going through fishermen’s cooperatives. At the same time, egalitarianism treating small-scale aquaculture on an equal basis with larger-scale aquaculture shall be abolished by introducing ITQs to expand the scale of business and create the situation under which aquaculture operators are able to demonstrate their creativity and ingenuity. As aquaculture in Western nations has developed under such a direct license granted by the state governments, Japanese aquaculture shall be shifted to a direct license granted by the prefectural government.

Up to now, licenses through fishermen’s cooperatives including those for fishing vessel fisheries have shifted toward direct licenses permitted by prefectural governors. Until the establishment of the “specific space license through fishermen’s cooperatives” by the amendment of the Fisheries Act in 1962, aquaculture was operated by direct licenses obtained by aquaculture operators. Additionally, although licenses for fixed-net fisheries are in fact given to operators (fishers) and companies, No. 1 priority is given to fishermen’s cooperatives which function as business entities.

Because of the above-mentioned reasons, licenses shall be granted directly to individual aquaculture operators or fishers or companies in the case of aquaculture and fixed-net

fisheries. Even under the existing system, it may be possible to introduce a governor-licensed system, but shall be stipulated in the law as follows:

Direct license aquaculture:

Aquaculture shall be shifted to a direct license, which is internationally introduced, as soon as possible and the following conditions shall be applied for licenses: (1)

Aquaculture operators shall have sustainable management capability; (2) Aquaculture shall be operated appropriately by minimizing adverse impacts on the environment and ecosystems; (3) Aquaculture operators shall observe the conditions for licenses.

Although the license period shall be set “within the range of maximum 50 years (without renewal)”, the third-party shall strictly check every five years whether or not conditions for licenses are complied with. In the case of non-compliance, recommendations for improvement shall be given or licenses shall be revoked.

Optional conditions for licenses shall be set to meet the actual situation of each region.

- 1) Additionally, the national government and prefectural government shall designate sea areas where aquaculture is able to be operated, shall grant a right to lease each fishing ground for aquaculture and shall also collect leasing right fees. This period shall be the same period as the period granted to aquaculture operations (up to 50 years without renewal). By introducing licenses for leasing of aquaculture grounds, it is easier to make a projection for production and establish a management plan and consequently it is possible to formulate a management plan. As aquaculture is suitable for ITQs, aquaculture shall also be subject to transfers such as sales of farmed fish on the condition that aquaculture operators satisfy the conditions.

(Reference)

- ① It is possible to renew the license after 10 years in the Gulf of Mexico in the US waters. (As NGOs are against the license system for aquaculture, this case is in litigation and there is no record of aquaculture.)
- ② Aquaculture licenses in Norway are for an indefinite period. However, as a result

of the review in accordance with the to-be-revised legislation and rules, licenses may expire.

- ③ Periods for aquaculture in the state of South Australia are 20 years for production leasing, within 12 months for pilot leasing, within 5 years for research licenses and within 6 months (renewal is possible) for emergency licenses. The leasing period in Australia is short.
 - ④ In Japan, a period for the license through a fishermen's cooperative is 5 years and that for the second category license (fish farming by partition nets) and pearl farming is 10 years.
 - ⑤ In Chile, a period for aquaculture licenses is for an indefinite period prior to 2010 and it is possible to renew the licenses if there are not any problems such as environmental problems. A closed fishing period is set to each zone for aquaculture.
 - ⑥ In Japan, a fixed period leasing right for commercial buildings is from 10 years to not more than 50 years (no renewal).
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- 2) The national government and prefectural government shall draw up a “aquaculture business management strategy” setting a target in five years' time and shall decide possible farming volume in accordance with the capacity of each aquaculture zone (environmental capacity), fish species for aquaculture, measures to conserve aquaculture grounds such as methods for disposal of sessile organisms, appropriate aquaculture methods and chemicals that can be used.
 - 3) The national government and prefectural government shall decide “measures to conserve the fishing (aquaculture) grounds and recover production capability”, “regulatory measures to respond to environmental deterioration originated by terrestrial factors such as discharges of industrial waste water and household waste water” and “a target for safety of farmed fishery products” every five years for entire Japan and also for each aquaculture ground.
 - 4) Securing safety of feed for aquaculture
The national government and prefectural government shall establish standards for procurement methods of feed, kinds and ingredients of feed, category of feed and

sustainability of prey fishery resources with a view to producing safe products by environmentally friendly and sustainable aquaculture.

- 5) As brand-labelled salmon is being produced increasingly recently, specifications of extruder pellets (EP) have become detailed and, as a result, manufacturing costs have increased. It is, therefore, necessary for both public and private sectors to promote technological development from now. Further, it is necessary to conduct research on and confirm safety of fish disease inhibitors, growth promotants, etc. contained in feed. At the same time, as soon as safety of those chemicals is confirmed, the national government shall hold government-to-government negotiations with overseas nations so that the use of those chemicals won't become a barrier for export of farmed fish to the US and Europe.
- 6) As it is clear that farming of salmon will increase in Japan from now, it is necessary to import safe embryos and, therefore, it is necessary to expedite the current negotiations on an administrative agreement for importation of embryos.
- 7) **Establishment of Land-based Recirculating Aquaculture System (RAS)**
Japan has established only a laboratory-level RAS for farming of fish such as salmon. As Japan is far behind other countries in the world in the technological development of RAS, Japan shall expedite technological development of RAS. It is also necessary to examine technologies for RAS from the point of view of business management and technology.

In Norway where aquaculture production has increased mainly through salmon, adverse impacts of aquaculture on marine ecosystems have emerged. With a view to avoiding marine pollution, water temperature increases and damages caused by natural disasters such as typhoons, Norway has started to develop RAS and off-shore aquaculture grounds (egg-shaped capsules and float-type).

In the case of land-based aquaculture, an overflowing method is generally used in Japan. The production scale of fish farming is several hundred tons in Japan. As RAS is an environment-friendly method by using 99% of recycled water, it is free

from damages caused by natural disasters and diseases. However, installations and operations of bio-filters, drum filters and trickling equipment are high costs. Additionally, there are technological and biochemical challenges because there are few successful examples of RAS for grown-up fish such as Atlantic salmon in the world.

Recommendation 4:

Excessive fishing capacity shall be eliminated as soon as possible through introduction of Individual Transferable Quotas (ITQs) which are effective in recovering fishery resources and strengthening business/corporate management of fisheries. At the same time, efforts shall be made not to depend on fisheries subsidies by establishing sustainable and independent business/corporate management of fisheries through improvement of profitability.

1) The new future Fisheries Act shall stipulate that TAC shall be below ABC definitely and TAC shall be established as obligation. Additionally, setting TAC for Japan's sea area as one area is against the scientific grounds. When setting TACs by fish species, TACs shall be set clearly by local stocks such as stocks in the Pacific Ocean side, stocks in the Sea of Japan side or stocks in the East China Sea and also by sea area.

2) Introduction of ITQs (1)

Introduction of ITQs shall be promoted. Western nations have introduced ITQs for approximately 25 fish species. ITQs shall be introduced for nine TAC-managed fish species in approximately five years. (Chub mackerel and spotted mackerel shall be managed as two different fish species.) Introduction of ITQs for approximately 25 fish species shall be aimed in 10 years' time.

3) Introduction of ITQs (2)

ITQs shall be introduced for the large-scale purse seine fisheries which harvest single fish species (or about two fish species) and cage fisheries which harvest crabs and prawns because it is considered to be relatively easy to introduce ITQs for these fisheries. For example, those fisheries are purse seine fisheries in the Northern Pacific, stick-held dip net fisheries of Pacific saury and red snow crab fisheries. ITQs shall be introduced for these fisheries within five years.

Additionally, it is easy to introduce ITQs for abalone and turban shell coastal fisheries because it is easy to check the resource situation as these resources do not

move. ABC and TAC shall be set ahead of other areas in representative fishing grounds for these by dividing fishing grounds. (Turban shell and fun mussel fisheries in the ROK and abalone fisheries in South Australia are examples for reference.)

- 4) ITQs which were introduced in Western nations resulted in the recovery of resources and improved profits of entrepreneurial management of fisheries. As a result, the value of ITQs as an asset has increased. ITQs had effects which were equal to those of currency and securities in the sector concerned. For this reason, fishers sold their ITQs to obtain cash and large-scale fishers and capitalists who purchased ITQs accumulated their ITQs and collect leasing fees of ITQs by leasing those ITQs to fishers. The leasing fee of these ITQs are considered to account for 60~70% of the fish price. Additionally, in the case of small-scale fishers, those who were originally allocated ITQs in the 1980's (first generation) monopolize profits. As the second generation, who succeed fisheries, face problems in purchasing ITQs from the first generation, this situation has become a barrier for new entries into fisheries.

5) **Introduction of ITQs (3)**

ITQs are rated highly because they not only recover resources and maintain sustainability but strengthen the bases for business/corporate management and improve profitability by reducing costs through integrated and rationalized management. However, as explained in the above 4), ITQs have created issues such as unfairness caused by concentration of ITQs into capitalists, transfer of ITQ leasing fees to fish prices and gaps between the first generation and the second generation.

It is possible for Japan to present a revised-version ITQ in the future, which possibly becomes a world model, by resolving these issues and improving operations of ITQs. In order to achieve this goal, following conditions for ITQs are suggested:

- ① ITQs shall be granted only to those who are actually engaged in fishery operations and holding of ITQs without engaging in fishery operations shall not be allowed. Additionally, transfers of ITQs shall be limited only to those who are actually engaged in fishery operations.
- ② ITQs shall be granted to fishers who are engaged in fishery operators, fishery processors and market distributors and transfers of ITQs shall be approved only within those groups. Ownership of ITQs shall not be granted and ITQs shall be regarded as exercising the right to conduct fishery operations.
- ③ The period valid for ITQs shall be set for five to 10 years. Forfeited ITQs shall be tendered again.

By fully examining the above-mentioned conditions, a revised-version ITQ in the future shall be presented to the world. At that time, in examining the above ②, it is worthwhile to examine the establishment of comprehensive fisheries cooperatives by integrating fishermen's cooperatives and fishery processors' cooperatives.

Recommendation 5:

Japan's domestic policy shall be taken to reflect agreements and ideologies of the international society such as the implementation of the United Nations Sustainable Development Goals (SDGs) and Japan's diplomacy shall respect the framework of the international fisheries treaties. Additionally, policy shall be taken to establish consumer mind concerning conservation and sustainable utilization of fishery resources and the environment. As part of such policy, education and enlightenment of consumers shall be introduced and an appropriate international certification system based on resource management shall be introduced.

- 1) Establishment of legislation and private-sector actions taking account of international trends
- ① In Japan, rules concerning output control (to restrict fisheries by TAC) based on the scientific grounds are not appropriately reflected in domestic legislation although this is the basis of the UNCLOS and the Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. The government put fishery restraints into fishers' hands (i.e. an agreement between fishers in the form of voluntary restraints) and did not implement these convention and agreement in Japan appropriately.
- ② **Responses to SDGs**

Japan is considerably behind Western nations concerning understanding of and responses to the SDGs which were agreed by the 2015 United Nations Summit and are aimed to be achieved by 2030. The goal which is most closely related to the fisheries sector is SDG14 (Conserve and sustainably use the oceans and marine resources for sustainable development) and also SDG15 (Protect, restore and promote sustainable use of terrestrial ecosystems). Multidisciplinary responses covering diversified and specialized sectors are needed urgently.

The 17 goals of SDGs are closely and mutually related. The United Nations specialized organizations such as the FAO (Food and Agriculture Organization), United Nations Educational, Scientific and Cultural Organization (UNESCO),

World Health Organization (WHO), International Labor Organization (ILO) and United Nations Environment Program (UNEP) tackle these goals according to their individual expertise.

Each goal has the following challenges which need to be implemented:

[SDG14.2: By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans.]

[SDG15.1: By 2020, conserve, restore and secure sustainable utilization of terrestrial ecosystems such as forests, wetlands, mountains and dry lands and inland fresh water ecosystems and their services in accordance with the obligations under the international agreements.]

[SDG6.6: By 2020, conserve and restore water-related ecosystems such as mountains, forests, wetlands, rivers, aquifers, lakes and marshes.]

In wetlands and areas where sand and seaweed beds exist, artificial structures such as concrete structures and vertical revetments by sheet piles and stones/rocks have adverse impacts on marine ecosystems and biodiversity. As these are considered to have adverse impacts on fishery and aquaculture production, it is necessary to conduct survey and study on the functions of ecosystem services concerning such impacts.

- ③ In 2016, FAO member nations concluded the Agreement on Port State Measures (PSMA) to prevent, deter and eliminate IUU fishing. Consequently, Japan clearly has an obligation to cooperate with a view to eliminating IUU fishing and, at the same time, PSMA requires that fisheries of port states take measures to eliminate IUU fishing. However, catch data are not reported in Japanese coastal fisheries. Additionally, a large number of free fishery operations such as gill-net fisheries which are virtually unregulated still exist. It is, therefore, necessary to take domestic measures in accordance with the international situation.
- ④ In the international fishery negotiations, it is extremely important for Japan to comply with the basic principle of sustainable utilization of resources based on the scientific grounds by respecting the UNCLOS, United Nations SDGs, regional

fishery organizations, the International Convention for the Regulation of Whaling (ICRW) and international fishery conventions of the North Pacific Fisheries Commission (NPFC) and the Western and Central Pacific Fisheries Commission (WCPFC).

- ⑤ Japan presented a catch quota which considerably exceeded the recent actual catch and caused a backlash from other member nations in the NPFC. In the WCPFC, Japan proposed an increase in Northern Pacific Bluefin tuna catch volume although parental biomass was only about 3% of the initial stock abundance and, as a result, the proposal was rejected. On the other hand, although skipjack stock is 50% of the initial stock abundance, Japan called for restraints of skipjack fishing. Thus Japan made contradictory or double-standard proposals within the same committee of the WCPFC. Japan's withdrawal from the ICRW means that Japan abandoned resolution of the issues within the international framework. It also means that Japan will lose the opportunity to process and publicize the scientific data for the IWC as a member which Japan accumulated for more than 30 years through scientific whaling. Additionally, Japan left many developing nations behind, which took concerted action with Japan based on the basic principle of sustainable utilization in the International Whaling Commission (IWC). As a consequence, it became difficult for Japan to obtain cooperation from other nations such as Norway and Iceland, which used to cooperate with Japan, because a gap has emerged between the recognition of cooperative relations with them.

Although it is a basic principle to achieve sustainable utilization based on the scientific grounds by respecting the international legislative framework, it is considered that Japan's fishery diplomacy has deviated from these basic principles recently. It is important for Japan to build international confidence by holding international negotiations in accordance with these basic principles. For example, Japan returned to the ICRW immediately after withdrawal in 1959. Japan should re-join the ICRW by filing the objection to the Article 10(e) of the Schedule of the ICRW Convention. There is also the example of Iceland's return to the ICRW in 2002 with the objection to 10(e) of the Schedule.

2) WCPFC and revisions of domestic regulations

- ① In the WCPFC, the Vessel Days (VDS) which set a fishing fee per day is input control for the purpose of economic benefits and the use of the collected fees is not clear. Properly speaking, the income from those fees shall be spent to promote conservation, management and sustainable utilization of tuna and skipjack resources and the use of the income shall be made transparent. The Japanese Government shall basically propose setting of TACs and an output control scheme such as country-by-country quotas in the WCPFC in cooperation with the US and New Zealand proactively.

At the same time, being an issue unique to Japan, it is desirable basically to eliminate regulations on the size of fishing vessels with the introduction of country-by-country quotas as those regulations restrict fishing operations in the WCPFC waters. Japan is trying to increase the size of purse seine fishing vessels for operations in overseas waters from 349-ton vessels to 760-ton vessels at present. However, the conditions for granting of financial aids include installation of a helicopter on the fishing vessel and improvement of the living environment. Furthermore, as the cost to purchase a license is required, it is necessary to revise the existing conditions from the point of view of suppressing the excessive cost. As it is a pressing issue to secure labor for deep-sea fishing vessels, the Law for Ship's Officer shall be amended and educational training for workers shall be conducted.

- ② **Fishing operation by overseas vessels outside Japan's EEZ in the North Pacific**
Overseas fishing vessels harvest chub mackerel, sardine and Pacific saury outside Japan's EEZ. According to the UNCLOS, this is a fishing operation in the high seas and general rules of the Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks are applied except for Pacific saury to which the International Convention for the High Seas Fisheries of the North Pacific is applied. It is, therefore, difficult to take effective management measures.

On the other hand, Japanese fishing vessels shall harvest fish sustainably based on the best scientific grounds which Japan considers in accordance with the objectives of the International Convention for the High Seas Fisheries of the North Pacific and

the Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. In such a case, Japan shall examine the operations of mother ships, factory trawlers and multiple purpose fishing vessels realistically and shall operate those vessels without delay.

3) Improvement of consumption measures taking account of international situations

Consumption measures

Norway conducted survey on the trends in consumption of fishery products in eight major countries including Japan and established an export strategy by understanding the trends in consumption. Results of the survey by Norway are disclosed to all the parties concerned. Japan shall conduct survey on demand for and consumption of particularly salmon/trout, tuna and prawns to understand the entire consumption trends and shall use the survey results as a base for a comprehensive fishery policy.

- ① Although limited, the private sector's sales policy which appeals the importance of sustainable resources has gained consumers' understanding and is supported by consumers on a retail level. It is necessary to promote these measures together with the SDGs. Additionally, as Norway allocates part of the income from export tax to the research of fishery products, Japan shall also introduce a system or tax by which consumers bear the certain cost of research on the sustainability of fishery products (for example, a future increase in consumption tax imposed on fishery products).
- ② Not only administrative officials and producers but consumers do not understand the international and domestic certification systems for fishery resources and fisheries and Japan's response is behind other countries. Even in the distribution, processing and retail sectors which are positioned between producers and consumers, the international and domestic certification systems are not fully understood.
- ③ Responses to the certification system
Compared to the Marine Stewardship Council (MSC) and Aquaculture Stewardship Council (ASC) certifications, the Marine Eco-Label Japan Council (MEL) and

Aquaculture Eco-Label (AEL) certifications are not so popular and not well accepted both at home and overseas. The fundamental flaws of these certifications are that they lack assurance of sustainability of resources and aquaculture and harmonization with marine ecosystems although these are the fundamental concept. MEL aims to be accredited by the Global Sustainable Seafood Initiative (GSSI) which is an accreditation organization of certification schemes, but they need to make effort to improve accountability, transparency and governance.

The Japanese Government promotes acquisition of MEL and AEL certifications by providing subsidies and aims to promote the use of MEL- and AEL-certified products during the 2020 Tokyo Olympic and Paralympic Games. However, the fundamental challenge for the Japanese Government is to improve resource management and support the establishment of the bases for the MEL certification system for sustainable fisheries based on the scientific grounds.

④ Changes in the international environment and nurturing and training of fishery successors and fishery workers

Next generation fishery successors and fishery workers need to be given opportunities for education and training, which are different from those in the past, so that they are able to respond to the below from a) to d) under the changing international and domestic situations.

- a) Measures to deal with SDGs, the Agreement on Port State Measures (PSMA) and IUU fishing;
- b) Matters concerning the Fisheries Act and new management measures such as TACs and ITQs;
- c) Recording and submission of domestic catch data;
- d) Sales in markets and recording of sales.

Recommendation 6:

The budget allocation for fisheries, which has continued consistently to focus on the projects/programs for coastal fisheries and public works in the postwar period, shall be drastically converted to the budget allocation which meets the present needs such as support for resource management, scientific research, processing and distribution, education and enlightening activities for consumers, etc. At the same time, budgets which respond to such needs shall be increased dramatically.

- 1) Overseas countries such as Norway which rebuilt the fisheries industry changed the fishery legislation and eliminated subsidies. Although the total budget for Japanese fisheries (fiscal 2019 fisheries budget and fiscal 2018 supplementary budget) exceeded 300 billion yen (US\$2.768 billion), the main purpose of this budget is to grant subsidies on the pretense of fisheries reform. Subsidies which hinder sustainability of resources are banned by WTO.
- 2) The fiscal 2019 fisheries budget, which contains subsidies and compensations (fisheries mutual aid compensation is virtually fisheries income compensation) for the construction of fishing ports and for fishers who suffer financial difficulties, is not considered to contribute to the achievement of the sustainable fisheries industry. The major part of the budget is spent for coastal fisheries measures and hardware constructions. The budget is also spent for fishing vessel leasing projects and construction of loading and cargo sorting stations, warehouses and fishing ports. There are concerns that these budgets will increase potential fishing capacity which further aggravates resources.
- 3) When Japan did not have enough infrastructures for the reconstruction of the nation during the postwar period, a budget for hardware construction such as construction of fishing ports was necessary. However, fishing ports are in excess and fishing ports, which do not have enough numbers of fishing vessels, are increasing at present.

4) Only approximately two billion yen (US\$18.5 million) is allocated to the fishery processing sector. What is more, the majority of this budget is not for fishery processors but for fishers who process fishery products. As the budget for distributors and consumers is spent for the sixth sector industrialization projects (*sixth sector industrialization=integration of primary, secondary and tertiary industries) at present, processors, distributors and consumers shall be able to participate in this budget. In order to achieve this goal, the budget for fishery processors shall be increased drastically or at least doubled from the current two billion yen. The fisheries budget shall be spent for comprehensive fisheries policy for all of the stakeholders.

5) Collection of catch data

It is necessary to secure, increase and improve the budget and systems to collect scientific survey data, which is independent from fisheries, to collect catch data and to get scientific observers on board.

For this purpose, it is an urgent matter to increase the number of researchers who undertake stock assessment, support their activities and increase the number of research vessels of the Regional Fisheries Science and Research Centers (provisional name).

There shall not be any exceptions, even fishing-right-based coastal fisheries, in regard to the collection of catch data. It is necessary to allocate a budget for the below-mentioned project by which all types of fisheries are able to submit catch data.

- ① Forms for recording of catch data shall be drafted. Fishers shall be instructed to use and fill in the forms. Experts shall examine the catch data which are filled in by fishers.
- ② It shall be stipulated in the law that cameras be installed and scientific observers be on board even on small-scale coastal fishing vessels.
- ③ Connection to the servers and devices of local governments which provide information shall be improved by promoting the introduction of electronic tablets

and support shall be given to local governments by providing and allocating necessary personnel.

- 6) Taking account of the above, it is necessary to drastically reallocate a budget for software, which is necessary for stock rebuilding, from a budget for hardware from the point of scientific view. The ratio of a hardware budget in the total fisheries budget shall be reduced to one-half in five years' time and less than one-quarter in 10 years' time. It is necessary to amend laws such as the Act on Development of Fishing Ports and Grounds by containing these budget shifts.

Recommendation 7:

The current Fisheries Act, which still maintains the vestiges of the old Meiji Fisheries Act, shall be abolished. The new Fisheries Act, new Fisheries Fundamental Act, new Aquaculture Act and Sports Fishing Act (new Recreational Fishing Act) shall be legislated and enforced as soon as possible under the basic principle that the seas and fishery resources are a common property of Japanese citizens. At the same time, a new and comprehensive fisheries-related legislation shall be established for the establishment of fisheries policy.

The Committee regards this final report (recommendations) as a gist of the new fisheries-related legislation, will work on the stakeholders to start a process to realize the recommendations and will disseminate information toward consumers and citizens. This process is operated with a basic principle of transparency and information disclosure. The outline of the legislative system, which should be realized, is as follows:

Following are important in the legislative process.

- The legislative process shall be open widely to Japanese citizens including fishers, participation in the legislative process shall be encouraged and all information shall be disclosed.

As the US aimed to prevent Japan's over catching in the East China Sea (i.e. trawl fishery west of 128° 30') and have Japanese fishing vessels withdraw from the East China Sea by the San Francisco Peace Treaty, the existing Act on the Protection of Fishery Resources was enacted. The objective of resource conservation and relevant clauses concerning aquaculture seeds which are stipulated in the afore-mentioned law shall be included in the "New Fisheries Act" and the "New Aquaculture Act" and the Act on the Protection of Fishery Resources shall be repealed.

As the Marine Fishery Resources Development Promotion Law is inconsistent with the spirit and the objective of the UNCLOS and also is out of the step with the times, it shall be repealed.

1) Legislation/enactment of the New Fisheries Act

The Fisheries Act (including the amendments in December 2018) shall be repealed as it maintains the basic framework of the old Meiji Fisheries Act. The “New Fisheries Act” which contains the above-mentioned recommendations from 1 to 6 shall be enacted.

2) Legislation/enactment of the New Fisheries Basic Act

The New Fisheries Basic Act and the New Fisheries Basic Plan which accompany the law shall stipulate a future vision and an outlook of the fisheries industry. The existing Fisheries Basic Act (2001) was drafted by succeeding the contents of the old Coastal Fishery Promotion Act after the enactment of the Agricultural Basic Act in 1991 when the future vision of agriculture was examined. This law stipulates stable supply of fishery products and healthy development of fisheries, but its major focus is the promotion of coastal fisheries and does not present a comprehensive future vision of fisheries and a direction of fisheries policy. Although setting of the self-sufficiency rate for fisheries products is a base for the fisheries policy, the law lacks scientific grounds and a policy target. What is worse, changes and deteriorations of marine ecosystems are accelerating. It is, therefore, necessary to enact legislation which respond to these situations.

New Fisheries Basic Act and New Fisheries Basic Plan

The New Fisheries Basic Act shall grasp the reality of the situation comprehensively, contain a future outlook and specify a policy target and a production target. The Act shall specify policy targets and production targets for coastal fisheries, aquaculture (including land-based aquaculture and inland water aquaculture), offshore fisheries, deep-sea fisheries, fishery processing and fishery distributions.

The law shall refer to the recovery and conservation of wetlands, tidal flats and seaweed beds in Japanese coastal areas, protection and conservation of marine

ecosystems in the entire North Pacific, terrestrial ecosystems and agricultural chemicals and excrements discharged from agricultural and livestock industries which affect the marine ecosystems, conservation of forests, amount and quality of river water and impacts of silt, sand and earth on fisheries. The New Fisheries Basic Act and the Fisheries Basic Plan shall stipulate a target for marine ecosystems (survey and accumulation of scientific grounds) concerning global warming and marine acidification.

3) **Legislation/enactment of the New Aquaculture Act**

The most important standards for granting of aquaculture licenses shall be that aquaculture does not place a load on the ocean, full consideration is given to the marine environment and aquaculture does not deteriorate marine ecosystems. Consumers have increased interest in the safety and sustainability of farmed fishery products. For this reason, it is necessary to promote the use of safe feed and chemicals. In promoting exports of fishery products, Japanese standards for aquaculture shall harmonize with the food safety standards in importing nations.

The Japanese aquaculture is partly regarded as the one that aggravates the marine environment by excessive feeding, discharging excrements and removing the attached substances other than farmed fishery products. It is, therefore, necessary to rectify these urgently for the sales of farmed fishery products both at home and overseas. As a result of the aggravation of the marine ecosystems and marine environment, worsening of water quality and occurrences of shellfish toxin were confirmed in the Sea of Okhotsk, Set Inland Sea and Sanriku coastal areas. Furthermore, quality and quantity of farmed products have clearly declined. It is therefore necessary to take comprehensive policies not only for marine ecosystems but by taking account of the relations with terrestrial ecosystems and agriculture. In particular, it is an urgent task to resolve the issue of sharply reduced homing of salmon/trout in the recent 20 years. It is necessary to review the relations between the river areas on land and salmon homing and to hold talks with the nations which share the North Pacific.

4) **Legislation/enactment of the Sports Fishing Act (New Recreational Fishing Act)**

As Japan only has the Act on Regulation of Sportfishing Boat Service, sportfishing is not managed appropriately at all. Additionally, sport fishers do not provide information either. Overseas countries introduced a license system for sportfishing under which those who enjoy sportfishing have an obligation to obtain a license. Japan should also introduce a license system for sportfishing.

Furthermore, a quota for sportfishing shall be set in the TAC as in the case of commercial fishery. On the basis of this quota, an upper limit of catch per person per day shall be set for sportfishing and sales of harvested fish by sportfishing shall be banned. By taking these measures, it is necessary to include sportfishing in the resource management framework on an equal footing with commercial fisheries.

Overseas countries educate sport fishers about resource management, provide information, conduct sample survey and provide educational opportunities. As sportfishing population is increasing overseas, overseas countries have sufficient facilities for sportfishing. It is, therefore, necessary to enact a law which contains these measures.

5) **Establishment of the Marine and Fisheries Policy and Economic Research Institute**

It is necessary to establish the Marine and Fisheries Policy and Economic Research Institute which conducts survey and study on marine fisheries policy and the marine fisheries economy and business management including financial statements from a medium- to long-term and broader point of view.

6) **Import Quotas (IQs) which finished the original objective and mission**

The IQ system considerably deviates from the original objective of protecting Japanese fisheries and holding of IQs has become a vested right for quota holders who does business by leasing IQs. As domestic fishery production does not increase and as import prices and import costs increase unnecessarily, the IQ system hinders the provision of consumption goods to citizens. For this reason, the IQ system shall be abolished.

The IQ system which is based on the Foreign Exchange Act and the Foreign Trade Act (No. 228 Law of 1949) stipulates the amount (or value) of fishery products which can be imported into Japan on an item-by-item basis in accordance with the Import Trade Control Order (No. 414 Order of 1949) Article 9. Import quotas are allocated to individual importers within this limit. However, compared to the time when this system was introduced, the Japanese fisheries industry has declined and is not able to supply enough fishery products in Japan. Under this situation, imports of fishery products are not at a level which have impacts on domestic prices of fishery products. Furthermore, as imported fishery products are more expensive than domestic fishery products, imports do not become a factor to reduce domestic prices. A shortage of raw materials, rather, has a negative impact on fishery processors and domestic consumers. As the present situation is completely different from that when IQs were introduced, it is judged that IQs are not necessary. Additionally, those who want to import fisheries products are not able to import unless they obtain IQs. Under such circumstances, IQs have become a burden for importers and IQ holders are able to earn income just by holding IQs.

Chapter 2: Desirable Picture of Japanese Capture Fisheries and Fisheries Industry

1. Present Situation and Issues of Japanese Fisheries

The Japanese fisheries are in a critical situation at present and the major fisheries indices are at a historically low level except for the reconstruction period immediately after the war. Fishery production in 2017 was 4.3 million tons which is below the level of 1955 (4.54 million tons), immediately after the abolition of the MacArthur Line after the Second World War. The number of fishers, which exceeded one million after the war, dropped to 150,000 in 2017. Young fishers aged 34 years old or younger account for 12% and those aged over 65 years old account for 38%. Japan does not have major distant water fisheries except for overseas purse seine fisheries and deep-sea tuna longline fisheries. In regard to capture fisheries within the 200 nautical miles, only a small amount of medium- and large-scale purse seine fisheries and offshore trawl fisheries exist. Those that are making profits are some sea surface aquaculture operators and a small amount of capture fisheries which are mainly purse seine fisheries in the North Pacific and overseas waters.

Fishers' income from coastal fishing vessel-based fisheries has remained at a low level for a long period. As fishers suffer a chronic deficit, they withdraw from fisheries one after another due to aggravation of coastal resources and high costs of fuel. Those fishers withdraw from fisheries for the reason of aging and a shortage of successors. On the other hand, those who have young successors continue their fishery operations and entrepreneurial management by shifting to aquaculture regardless of where they are in Japan. However, in the Sea of Japan area, particularly in the Sanin region, they do not have enough areas which are suitable for traditional and small-scale aquaculture and only have few successors. Although Hokkaido is Japan's largest base for fisheries, fishery production dropped below one million tons for two consecutive years in 2016 and 2017. Fishery production in Hokkaido recovered to 1.02 million tons in 2018, but production value was below the 2017 level. As there was no recovery in fishery production except for scallop in 2018, fishery production still remains at a low level.

Aquaculture is operated in coastal areas where space is limited. When aquaculture was still under the developing situation before global-scale commercialization, the Japanese aquaculture industry was making profits and played certain roles in developing the fisheries industry and regional communities and supplying fishery products. The Japanese aquaculture industry, however, is shrinking gradually at present because of aging of aquaculture operators, deterioration of the marine environment and competition with imported fishery products. What is worse, the existing system is not able to tackle these issues and aquaculture operators face issues such as aggravation of management, technologies and marine ecosystems.

The Japanese policy and budget for the capture fisheries and fisheries industry do not cover the entire fisheries industry comprehensively. The policy focuses on the measures for coastal small-scale fishing-vessel-based fisheries and aquaculture and the majority of the budget is spent for these. Although measures for offshore fisheries and distant water fisheries are barely taken, measures for fishery processors, distributors, consumers, retailers and education of citizens are not taken at all.

Japan's self-sufficiency rate in fishery products (i.e. fishery products for human consumption, excluding sea weeds) was 55% in 2017. Per capita supply of fishery products per year dropped to 24.4 kg in 2017 (fishery products for human consumption). No comprehensive measures are taken for import, export and consumption in Japan. The Japanese Government set an export target of fishery products at 350 billion yen (as of 2019), but does not conduct survey and analyze consumption of fishery products and the Japanese market. On the other hand, the Norwegian Government conducted a market survey in Japan to understand consumption trends.

As explained above, Japan lacks the entire picture of the fisheries industry and a comprehensive fisheries policy based on a broader perspective. As Japanese nationals and consumers do not have much interest in the fisheries sector, it is no exaggeration to say that Japan only has a "coastal fishery policy". The budget for coastal fishery measures is mainly allocated to fishers' groups and members of fishermen's cooperatives through fishermen's cooperatives. Furthermore, the budget for construction of fishing ports and facilities at fishing ports account for a large part of the

fisheries budget. This is the remains of the allocation of the fisheries budget for construction of fishery infrastructure in the postwar period. Fisheries policy, which is far from the title of “fisheries” as represented by the “fisheries” industry, the “Fisheries” Agency and the Japan “Fisheries” Research and Education Agency (FRA), is implemented.

On the premise that the recommendations in Chapter 1 are implemented based on the aforementioned recognition, the Committee would like to present the desirable pictures of the capture fisheries and fisheries industry in 10 years’ time.

2. Desirable picture of the Japanese capture fisheries and fisheries industry

- 1) The New Fisheries Act, New Fisheries Basic Act, New Aquaculture Act and Sports Fishing Act, which are fundamentally different from the existing fisheries-related legislation, shall be enacted and enforced.
- 2) “The seas and fishery resources are a common property of Japanese citizens.” shall be stipulated in the New Fisheries Act and the New Fisheries Basic Act and clauses for realization of this shall be stipulated in the New Fisheries Act and the New Fisheries Basic Act to implement this.
- 3) Fishery management plans shall be made by fish species and local stocks to manage fishery resources based on the scientific grounds. Years until the achievement of the target, stock volume and catch volume and Blimit which is a reference point shall be specified. In the six sea areas of the Pacific Ocean, Sea of Okhotsk, Sea of Japan and East China Sea, ABC and TAC shall be set by fish species and by local stocks for 100 fish species and local stocks within two years and 400 fish species and local stocks within five years. Although legislation for this is not necessary, it is desirable to stipulate this in the law.
- 4) ITQs shall be introduced for fishing vessel-based fisheries of 25 fish species and all aquaculture in 10 years. By this, structures of fishing vessel-based fisheries and aquaculture will be reorganized and management structures will be improved and strengthened despite the reduced number of operators.
- 5) A license and leasing of fishing grounds (collection of leasing fees of fishing grounds) shall be introduced for aquaculture within three years to vitalize the

existing operators and promote new entries and the license and leasing system shall be wide spread (widely accepted) in five years' time. New entries into aquaculture is aimed to account for 10% in five years' time (on a production volume basis) and 30% in 10 years' time (on a production volume basis) in the existing fish farms. The period for aquaculture licenses and leasing of fishing grounds shall be set at maximum 50 years (no renewal) but options shall be prepared to meet the actual situation in each region. The third-party external organization shall review the licensed aquaculture business every five years. In the event aquaculture operations do not satisfy the conditions for licenses, recommendations shall be made for improvement. If aquaculture operators do not follow the recommendations, licenses shall be confiscated. As a condition for licenses, aquaculture operators shall have an obligation to submit a management report every year.

- 6) Fishery production in Japan's 200 nautical mile zone shall be estimated and this shall be presented to citizens and the fisheries industry as a target. When the fisheries-related legislative system is established in a desirable manner, Maximum Sustainable Yield (MSY) and Harvest Control Rules (HCR) within the 200 nautical mile zone in 10 years' time shall be obtained by the following methods: i) Estimate catch volume by obtaining stock volume of higher rank fish species from the basic production volume of the subject sea area; ii) Estimate MSY (or an intermediate sustainable yield before reaching MSY) in five years' time and 10 years' time by setting a management target for stock recovery by fish species and by local stock; and iii) Estimate production volume by the catch volume within the 200 nautical mile zone in the past and by the operating sea areas at present and the number of fishing vessels (catch effort). Additionally changes in marine ecosystems shall be taken into account.

Aquaculture production shall be estimated by taking account of above i) to iii), new fishing grounds and new entries.

- 7) After estimating fishery and aquaculture production, production for processing, refrigerating and fresh deliveries shall be estimated according to use. After that, fishery processing volume and distribution volume of fishery products shall be estimated. The government or the Marine and Fisheries Policy Economic

Research Institute (provisional name) (This institute conducts research on future policies, economy and utilization and management of sea areas. The institute shall be established within three years as an organization which examines basic policy-related matters and analyzes and assesses economics of management on behalf of the government. The institute is under the jurisdiction of the Cabinet Secretariat or the Cabinet Office.)

- 8) The Japanese fisheries-related legislative system shall be based on the scientific grounds and shall have the spirit and objective of the UNCLOS. Additionally, fisheries policy shall include measures to recover marine ecosystems in response to the SDGs, particularly SDG15 and SDG14. The research (study) shall be commenced within one year and results of the research (study) concerning the issues and setting of the necessary hypothesis to resolve the issues shall be announced within three years.

An international certification system, which promotes conservation and sustainable utilization of resources, shall be introduced and be made widely accepted (wide spread) within three years. At the same time, importance of sustainable resource management through appropriate certification systems shall be appealed to both consumers and producers.

- 9) A system to use the income from resource rents (i.e. tax on the use of fishery resources) for fishery resource surveys and consumer education shall be promoted.
- 10) Introduction of ITQs will reduce excessive investment and costs of fisheries, increase income and profits of aquaculture will increase as aquaculture is operated according to the capacity of the sea area. New entrants are able to produce fisheries products according to a plan, profits in coastal fisheries and aquaculture will also increase and fishers will pay income tax or corporate tax. Subsidies to compensate for losses of management will disappear and subsidies for fishers' groups and fishermen's cooperatives won't be necessary any more. Subsidies for fishing vessel leasing business and subsidies for building of fishing vessels and fishing ports shall disappear or shall be cut considerably.
- 11) The government budget shall be used for sustainable management of resources, innovation and rationalization and expansion of management (within five years). The reduced amount of the budget for hardware measures shall be reallocated to

scientific research to maintain sustainable resources, collection of catch data, education of consumers, promotion of fishery processing and distribution measures.

Please refer to the “work schedule to realize ‘the desirable picture of the capture fisheries and fisheries industry’ which is reported in the 2nd Fisheries Industry Reform Committee Final Report (Recommendations)”.

3. Economic index of the desirable capture fisheries and fisheries industry

Fisheries and aquaculture production targets shall be set at 5.1 million tons (of which, aquaculture production is 1.2 million tons) in five years’ time (1.2 fold) and 6.5 million tonnes (of which, aquaculture production is 1.5 million tons) in 10 years’ time (1.5 fold).

In 10 years’ time, production volume shall be aimed to be doubled to three trillion yen (of which, aquaculture production value is one trillion yen).

Fishery processing was 3.1 million tons in volume and 3.5 trillion yen in value in 2015. These shall also be aimed to be increased as in the case of fisheries and aquaculture production.

It shall be aimed to increase handling volume of fishery products by wholesale markets by 1.2 fold in five years’ time and by 1.5 fold in 10 years’ time by increasing domestic fisheries and aquaculture production and improving quality. Looking at the current trends in imports of fishery products, imports are expected to decrease further in the future. The Toyosu Central Wholesale Market handled 391,000 tons of fisheries products in 2017 and is aimed to increase this handling volume to approximately 480,000 tons in five years and 600,000 tons in 10 years. These goals are able to be achieved on the premise that Japanese resource management, aquaculture and production systems are modernized and distributors proactively undertake activities to promote resource management.

(Note) Economic indices for production volume etc. are based on 2017.



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