

Japan  
Fisheries  
Association



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Views and Opinions of Japan's Fisheries Industry

**SPECIAL FEATURE**

**OUTLOOK OF FISHERIES AS A FOOD SUPPLYING  
INDUSTRY IN THE 21<sup>ST</sup> CENTURY**

**--JFA President Nakasu--**

*Isao Nakasu, President of the Japan Fisheries Association (JFA), inspired fisheries industry people with a lecture in Tokyo on October 22, 2003 under the theme "Thinking of Fisheries Industry as Food Supplying Industry." Nakasu outlined his views on (1) the supply and demand for food in the world, (2) the supply and demand for food in Japan, and (3) the future outlook of the fisheries industry. Following is the essence of his lecture:*

**The world's food supply and demand**

The world population now exceeds 6 billion, with a prospect to increase to 8.5 billion in 2030. Essential for human existence is food, and food supports population growth. In other words, the supply of food determines the scale of the population. The world population doubled during the past 40 years, from 3 billion in 1960 to 6 billion in 2000, and the bulk of the food supply during this period came from agricultural and livestock products. Especially, the supply of meat and dairy products saw a visible increase. Those products are produced by feeding cattle with grass and grains. Grain production in the world stands at 2.1 billion tons, of which Japan produces about 10 million tons. On the other hand, world fishery production is 140 million tons, of which Japanese production accounts for 5-6 million tons. China produces 50 million tons, centering on inland-water fisheries.

World grain production, which stood at 90 million tons from 650 million hectares of land in 1960, expanded to 2.1 billion tons from 670 million hectares in 2000. This resulted from improvement in planting and technological development, which boosted grain production per hectare from 1.4 tons to 3.1 tons. Since 1990, the fishery catch has remained level at 95 million tons, with production from aquaculture supporting the population growth.

In any country, as the level of affluence rises, food culture tends to shift from one centered on starch to

one centered on protein (animal-based food), which causes a rapid increase in the production of grains that serve as feed for cattle. In order to consume one kilogram of meat, we have to feed a cow 3-4 kilograms of grains. A drastic change is underway in which grains cannot be obtained unless they are imported from other countries. About 11% of grains produced worldwide move across national borders. About 30% of soybeans are traded internationally, with 18% of wheat and 5.7% of rice. As for fishery products, 37% are internationally traded, with Japan buying the bulk of them. On the other hand, 30% of the gross domestic production (GDP) of Norway comes from fisheries, with the country striving to foster this industry as an export sector.



**Isao Nakasu**

Two arguments are put forward about the future of the world's food situation. Optimists say that the market mechanism will work, with prices rising as supply decreases. They also point out that food production increases through technological innovations such as genetic modification. Conversely,

pessimists view that environmental restraints will increase and global warming will intensify. It is said that a rise of one degree centigrade in temperature would mean a decrease of 500,000 tons in agricultural production.

### Japan's food supply and demand

Japan's population in the Heian Period (794-1185) was 6 million with 1 million hectares of arable land. In the Edo Period (1603-1868), the population increased to 12 million with 2 million hectares of arable land, further rising in the Meiji Period (1868-1912) to

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34 million with 4 million hectares. Current arable land stands at 5 million hectares. In the Edo and Meiji Periods, one hectare supported 6-8

persons, meaning that life was very stringent. In 1936, Japan's population exceeded 70 million, prompting the government to give priority to the task of ensuring food. In the postwar years, some millions of Japanese abroad repatriated and mountainous areas were reclaimed. In order to support the present population of Japan of 120 million, 15 million hectares of land would be needed.

After the Second World War, Japan chose the way to support the population by importing food. Underlying this change were Japan's economic growth and progress in transportation technology. At the same time, higher-level food production in Japan accelerated this trend. Until the Meiji Period, the daily per-capita food consumption had been 350-450 grams, of which rice accounted for about half. At present, rice accounts for one quarter of the per-capita food consumption. The per-capita rice consumption in 1963 was 315 grams, declining to 170 grams at present. By contrast, the consumption of meat and dairy products rose from 5-10 grams and

6-8 grams, respectively, in the prewar years to 14 grams and 60 grams in 1960, and to 80 grams and 250 grams at present. The consumption of fish also increased during the same period from 20-30 grams to 90 grams and 100 grams but never played a mainstay role. As a result, Japan's food self-sufficiency rate dropped drastically, with Japan buying a large part of its grains for cattle feed. It can be said that the age of "produce-and-sell" has changed into that of "compete-and-export."

### Future outlook of the fisheries industry

In terms of the "supply power" of animal protein, fish can be said to have its strength and superior position vis-à-vis other foods if the resources are used sustainably. However, aquaculture could face a stringent situation like meat. How to supply products meeting consumer needs is crucial. Such products as boneless fish and fish meat sausage not using egg whites seem to be selling well. As a means to boost consumption, the creation of promotional schemes at the stores might be helpful.

It is essential to exert efforts to ensure the safety of food--the top concern among consumers at present. Especially, the issue of mercury and dioxin contamination is crucial and it is important to respond to the concerns of consumers with accurate knowledge and full sincerity. In sum, the greatest task facing us is how we can change the awareness of all those concerned and at the same time strengthen our competitive power from the viewpoint of the fisheries industry as a food supply industry.

I think that, as compared with meat, fish has its strength so that there is no need to be pessimistic about the future of its consumption, and there are quite a number of Japanese people who return to the habit of eating fish. We can open up a bright outlook if we continue our efforts from a viewpoint of how to bring fish to the taste of consumers. What we in the fisheries industry need is the awareness of our mission and the conviction that we can win in the competition.

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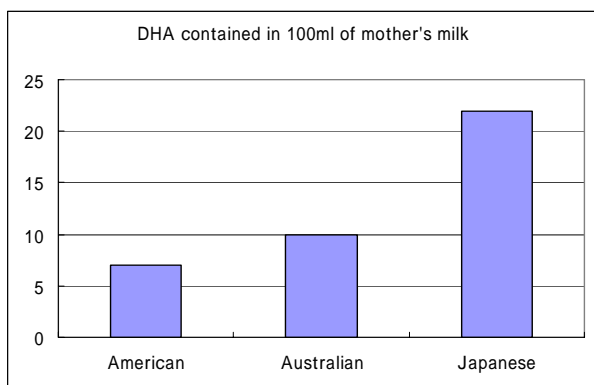
## Health Column

### DHA in Fish Makes Healthy Children: JFA Symposium

**A**n unbalanced diet, especially among children, is a problem facing society. In order to address this issue, the Japan Fisheries Association organized a symposium on October 20, 2003, under the theme of "Children, Nutrition and Fish Preparation."

In the first part of the symposium, Professor

Kikumaro Aoki at Kagawa Nutrition University, delivered a keynote speech entitled "Issues surrounding Child Nutrition Science and Fish." His presentation ranged from what docosahexaenoic acid (DHA) is to what kind of role DHA plays in the health and development of the brain in the process of a child's growth.



source: "Fish DHA that makes smart brain" H.Suzuki

Of particular interest was the fact that DHA is contained in mother's milk. A country-to-country comparison showed that the DHA content in the milk of Japanese mothers is conspicuously higher. (See the above figure). This indicates that the consumption of a larger amount of fish provides more DHA to babies from their mother's milk. Babies cannot choose what they consume. Therefore, mothers should know that their meals are substantially related to the nutritional intake of their babies. After elaborating further about the diverse effectiveness of DHA in health, Prof. Aoki concluded that we should eat more fish.

In the second part, Ms Hiroko Chiba, a teaching assistant at Kagawa Nutrition University, talked about why a fish diet is necessary for health.

First she pointed to the presence of high-quality protein found in abundance in fish. Protein is an indispensable element for all living things and is found in the human body in the largest quantities only next to water. It can be said to be a particularly important nutritional element for child growth. Further, fish protein functions to discharge salt (natrium) in the human body.

Next is fatty acid. It is widely known that fish fatty acid contains abundant DHA and eicosapentaenoic acid (EPA). EPA functions to reduce "bad" cholesterol and maintain "good" cholesterol, serving for the prevention of arterial sclerosis, myocardial infarction, cerebral apoplexy and other malfunctions. As mentioned earlier, DHA functions to help development of the brain in addition to functions similar to those of EPA. As fish fatty acid is found in a large amount in subcutaneous fat, consuming the fish skin together with the meat is effective in consuming fatty acid.

The intake of calcium that makes up bones and teeth is useful for the prevention of osteoporosis (bone loss). Small fish and sweet-boiled fish that can be consumed with the bones are effective for the intake of calcium. Further, calcium is not only necessary

for bones but is closely linked to the life maintenance system within the body, such as muscle contraction, the control of anxiety and the activation of enzyme functions. However, calcium has a very low absorption rate. It is vitamin D that helps calcium absorption. As vitamin D is found abundantly in the internal organs of fish, small fish that can be consumed in their entirety, i.e., including the bones and viscera, are most suited for the intake of calcium.

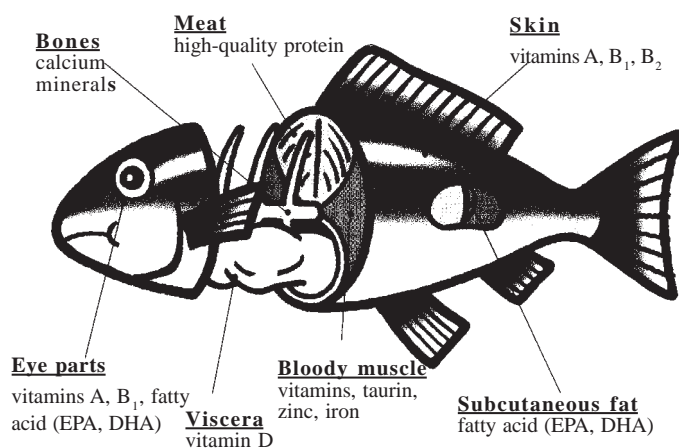
Taurin is also contained abundantly in fish and shellfish. Taurin has diverse functions such as the recovery of visual acuity, a heart stimulant, the improvement of abnormal cardiac rhythm, the prevention of anemia and strengthening the detoxification power of the liver. One function that deserves special attention is its effectiveness in lowering the level of cholesterol and neutral fat in the blood. Probably many people are trying to avoid eating squid, octopus and shellfish as they are concerned about the high cholesterol contents in those species, which might trigger arterial sclerosis. To the contrary, those species have high taurin content and do not present any concern of increasing cholesterol but rather serve for the prevention of arterial sclerosis and myocardial infarction.

Next is the high iron content in bloody fish muscle. Women especially are advised to take iron. Iron also has a low absorption rate. Fortunately, however, the iron found in fish is heme iron, that has an intra-body absorption rate as high as 35%.

Finally, vitamins in fish. Probably many people first think of vegetables when they hear the word "vitamin." But fish contain abundant vitamins. Most abundant are vitamin A, B<sub>1</sub>, B<sub>2</sub>, D and E. Like iron, vitamins are found in a large amount in bloody muscle.

This brief listing may show that elements useful for health exist in fish and, therefore, fish is indispensable for maintaining health.

#### Nutritional Distribution of Fish



## Global Efforts Promoted To Manage Fishing

### FAO Demonstrates High-level Political Will to Counter IUU Fishing

The United Nations Food and Agriculture Organization (FAO) adopted a resolution to eliminate illegal, unregulated and unreported (IUU) fishing at its 32nd general meeting on December 9, 2003. Sources close to the FAO observe that the high-level resolution at the general meeting marked a drastic step towards the goal.

Addressing the general meeting on December 1, Japan's Agriculture, Forestry and Fisheries Minister Yoshiyuki Kamei said: "It is important to take steps toward eliminating IUU fishing practices which diminish the effectiveness of management measures for fishery resources. As a responsible fishing nation, Japan is committed to take the lead in acting upon regional fisheries management organizations for the solution of this issue." Also delegates from many other countries, including Australia and Malaysia, referred to the IUU fishing issue in their addresses.

Efforts to get rid of IUU fishing have been promoted mainly by FAO, as represented in its Code of Conduct for Responsible Fishing and an international plan of action to eliminate IUU fishing activities adopted by FAO's Committee on Fisheries. This issue was taken up as an important issue at this general meeting based on the awareness that the approach to this issue differed among countries and that adequate political will has so far not been demonstrated.

The 12-point resolution called, among other things, for the following:

(1) early ratification of the FAO Compliance Agreement and the U.N. Agreement on High Seas Fisheries as well as proper implementation of the Code of Conduct for Responsible Fishing;

(2) ensuring effective monitoring and enforcement regarding activities of each nation's fishing vessels;

(3) early implementation of the FAO's international plan of action on IUU fishing (IPOA-IUU) and development and implementation of the national plan of action (NPOA) towards this goal;

(4) strengthening ties among related international organizations, including FAO, the International Maritime Organization (IMO) and regional fisheries management organizations;

(5) positive participation in Expert Consultations on IUU Fishing and Excessive Fishing Capacity scheduled for June this year; and

(6) strengthening assistance in terms of financial and human resources to developing countries, especially in developing and implementing NPOAs.

### ICCAT To Introduce Positive List System for Farmed Tuna from August

The International Commission for the Conservation of Atlantic Tuna (ICCAT) decided on management measures for Mediterranean farmed bluefin tuna at its general meeting held in Dublin, Ireland, from November 17 to 24, 2003.

This is what one might call the farmed tuna version of the Positive List system already being applied to fishing vessels. If this system is enforced, trading of farmed bluefin tunas other than those from the duly-registered farms will not be allowed. The system will be enforced effective from August this year, after registration by tuna farms.

Under the present measures targeting Mediterranean farmed bluefin tuna, which are similar to the Positive List system, each farm will be required to register and report items such as the number of tuna in the farm cages and meat increase coefficients. By the implementation of this system, transparency in production will be ensured, and orderly trading will be pursued. No trading will be allowed for tuna from non-listed farms.

Mediterranean farmed bluefin tuna in farming cages increased from 14,000 tons in 2002 to 21,000 tons in 2003. As the total allowable catch (TAC) of bluefin tuna for the eastern Atlantic is set at 32,000 tons, it means that about two thirds of the TAC is from farming. Although prices of bluefin tuna are declining because of excessive supply, there are still moves in such countries as Israel and Egypt to launch new farming grounds, causing concern among countries involved.

At this meeting, ICCAT adopted a resolution to send a letter to the Japanese government demanding that Japan take stringent measures not to expand farming projects to non-member countries.

Masanori Miyahara, ICCAT Chairman and also Japan's chief delegate, told reporters that implementation of the Positive List system for farmed bluefin tuna will help clarify the actual situation of farmed bluefin tuna production which had many uncertain elements. The system will hopefully check the uncontrolled increase in tuna farming projects, he

## Introducing A New Publication

### Are Tunas Endangered?

--Why are unscientific arguments on tuna resources accepted worldwide?--

Author: Dr. Yuji Uozumi



Published by  
Seizando Shoten

It is fresh in our memory that a paper presenting concerns about the state of large-size commercial fish species, such as tuna, was widely reported in 2003 by the mass media in some countries. Researchers of tuna resources stood up against this argument, pointing out the deficiencies of the paper.

In the same year, a book entitled "Are Tunas Endangered?" was published in Japan. The book was written by Dr. Yuji Uozumi, a scientist at the National Research Institute of Far Seas Fisheries, who has been devoted to the study of aquatic resources for many years. The author, neither an advocate of the fisheries industry nor a green campaigner, presented an objective view as a front runner in the studies on fishery resources. This book deserves the attention of foreign readers, but unfortunately only the Japanese version is available at the moment. In this and ensuing issues of ISARIBI, we would like to present parts of his presentation. What follows is the author's message regarding this book.

#### Author's message

**T**unyas are not endangered. This obvious fact is debated heatedly at such fora as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). I would like to question the reason for this situation. Why were tunas listed in the Red List as a species threatened with extinction? What is the merit of listing tunas which are far removed from the risk of extinction? Will it not only confuse the conservationist movement? One of the objectives of this book is to clarify the core of this issue. Specifically, I address the issue with a central emphasis on the criteria to determine the danger of extinction.

I also point out the errors in the criteria and suggest their improvement in the hope that no species unlikely to be endangered may be listed and the conservation of truly endangered species may not be hampered.



Dr. Yuji Uozumi

On the other hand, we should not be allowed to indulge in the unlimited use of tunas on the pretext that they are not endangered. Efforts should be made to avoid any situation that can lead to creating serious problems to the sustainable use of tunas. The history of fisheries is a history of over-exploitation, and tuna fisheries are no exception. At present the optimum utilization of tunas is faced with diverse problems, and great efforts have been expended for solving them. This book addresses the issues relating to sustainable use and possible measures to be taken. I would only hope that this book will serve to ensuring that tunas will not be exposed to the risk of extinction in the future, to avoiding excessive exploitation, and to achieving sustainable utilization of the resources.

#### JFA To Hold 1st International Seafood Show in Osaka

The JFA will organize on Feb. 26 and 27, 2004, the first International Seafood & Technology Expo in Osaka, the largest commercial city in the western Japan., having rich food culture and seafood market. The show, to be held on the heel of success of similar shows in Tokyo, is foreseen to attract more than 300 display booths.

For further information, contact: <http://www.k-ide.com/seafood/eindex.html>.

## ICFA Appeals for Sustainable Contribution of Fisheries --Annual Meeting in Auckland--

The International Coalition of Fisheries Association (ICFA) appealed for the sustainable contribution of fisheries to the world's food security at its annual meeting held in Auckland, New Zealand, from November 26 to 28.

It also stressed the need to take countermeasures against the ongoing anti-commercial fishing campaigns and to promote appropriate publicity activities.

The meeting was attended by fisheries organizations from Japan, the United States, Canada, Russia, New Zealand, Iceland and the ASEAN Fisheries Federation (including Thailand and the Philippines). The participants exchanged views on a number of issues important to fisheries, and adopted the following resolutions:

### 1. International tuna longlining

The resolution endorsed \*the joint declaration adopted at the World Tuna Longline Fishery Conference in August 2003. It broadly supported the activities of the Organization for the Promotion of Responsible Tuna Fisheries (OPRT) for eliminating IUU fishing activities. The resolution also called the restrictions on tuna longline fishing capacity should not exceed that which is necessary to ensure sustainability, and that the development of tuna purse seine fishing capacity should be managed on a sustainable basis and be consistent with international conservation and management measures. At the same time, the resolution endorsed \*the 2003 Kesenuma Declaration regarding the Sustainable Utilization of Shark Resources and Tuna Longline Fishing. (\* visit [www.oprt.or.jp](http://www.oprt.or.jp))

### 2. Public communications on the state of fishery resources

ICFA expressed concern over dissemination of misleading views on the state of fishery resources. It agreed on the importance of making accurate information available on fishery resources. ICFA therefore encouraged the FAO to provide accurate information on the state and trends of the world's main fishery resources and fish stocks and make sure information readily available on its website.

### 3. Ecolabeling

ICFA welcomes the report of the recent FAO Expert Consultation to establish international

guidelines for the ecolabeling of fish and fishery products from marine capture fisheries and also its recommendation.

### 4. The relationship between Regional Fishery Management Organizations and the World Trade Organization (WTO)

With the aim to encourage compliance with the measures against IUU fishing, the resolution called on the WTO's Committee on Trade and Environment (CTE) to apply the measure to non-member States. It also requested the FAO Committee on Fisheries (COFI) and its Trade Subcommittee to remind the CTE of the importance of this issue.

### 5. Marine Protected Areas

The resolution opposed the unreasonable establishment of Marine Protected Areas. ICFA endorsed the article by Hilborn et al. entitled "When Can Marine Protected Areas Improve Fisheries Management?", which points out the use of MPA will require careful planning and evaluation as well as the risk of its misuse.

### 6. Whaling

The resolution recognized that the sovereignty, cultural practices, and dietary habits of individual nations and its peoples should be duly respected. It said that ICFA is deeply concerned about the establishment of the Conservation Committee at the 55th IWC annual meeting in Berlin in 2003 because it will further aggravate the polarization of the IWC. The resolution urged the IWC to complete and implement the Revised Management Scheme at the earliest opportunity thereby ending the moratorium on commercial whaling.

(For details of resolutions, visit [www.icfa.net](http://www.icfa.net))



ICFA delegates in session