Japan Fisheries Association

ISARIBI 漁火 Fishing Fire

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Views and Opinions of Japan's Fisheries Industry

More Attention Should Be Given to the Nutrional Value of Fish than the Harm

—Scientist Advises at JFA Symposium—

The Japan Fisheries Association (JFA) organized a symposium in Tokyo on October 15, 2004, under the theme "Assessment of the merits and risks of a fish diet."

At the symposium, Dr. Hiramitsu Suzuki, Chief of the Physiological Function Laboratory of the National Food Research Institute, delivered a lecture, in which he emphasized that the risks from fish, including those from aquaculture, are minimal, and more attention should be directed to the high nutritional values of fish rather than its potential harm.

He noted the rumors going around that fish contain methylmercury and that a large amount of fish consumption could pose a risk to health. It is true that methymercury could cause disorder in brain nerve functions, and human embryos are especially susceptible to its effect. Very few studies have been carried out in Japan on a small amount of methylmercury despite Japan's experience of causing Minamata disease, he said.

Overseas, a survey was conducted in the Faroe Islands on the exposure to methylmercury and neurological status. The relation between methylmercury exposure and brain functions was studied for 182 babies in those Islands, and it was reported that greater exposure to methylmercury would cause more deteriorated brain functions. However, these findings were not published in authoritative medical journals that examine survey results rigorously. Therefore, the data of the survey are not easily accessible. In a similar survey carried out in the Seychelles, where there is an active fish consuming culture, no evidence was obtained that methylmercury negatively affects brain functions. Rather, it was found that children consuming fish more frequently were healthier and had well-developed brains. This finding has been published in a medical journal.

There is a need to point out that fish and shellfish have numerous nutritional and functional components which by far surpass the concerns over the negative effects of methylmercury. Well-known components in fish oil are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), but methylmercury coexists with them because it has fat soluble characteristics. Fish also contain large quantities of selenium and taurine which may weaken the mercury toxicity.

It is a predominant view among experts that methylmercury increases oxidation stress to brain tissues. Selenium has reducing-effects on the peroxidase activity, and mercury and selenium reciprocally function to reduce the degree of poisoning. It has been proven that DHA acts on brain cell

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membranes. However, a new theory has been presented that DHA captures active oxygen. DHA itself is oxidized, and when oxidized, it is removed from the brain, and lowers the amount of peroxide in the brain. Taurine also functions to not only suppress the oxidation but to reduce the toxicity of chemicals.

Methylmercury tends to cause functional disorder in the brain when it is consumed continuously at a high frequency and in large doses over a long term range. However, it is not clear whether it results in poisonous consequences when it is consumed at a low frequency and dose. Dr. Suzuki stated that he can not find enough scientific evidence for regulatory values adopted by various countries. The findings obtained from the survey in the Faroe Islands were based on epidemiological research. It could provide a hint as an initial-stage survey. However, its legitimacy needs to be validated through animal and human experiments.

His advice at this stage is to give greater attention to the merits of fish than the risks of methylmercury in fish.

Science for Sustainable Management or Not

By Nualanong Tongdee

It sounds perfectly reasonable that people living in different geographical areas of the world, having different available resources, would come up with totally different ways and means of living. These differences have generated, and accumulated over the years, and are clearly reflected in their lives and cultural characteristics. It's therefore not surprising why people in large nourishing land areas tend to base their living on agricultural production, those with plentiful natural resources try their best to use what they have, and those living in island resource-scarce areas depend a great deal on harvesting marine resources.

Fish and the Japanese

Japan is probably among those countries with the most unique and longest tradition in utilizing marine resources. Surrounded by the sea on all sides, fisheries have been prospering here since olden times. Even at present, Japan is one of the world's most prominent fishing nations, and the biggest importer of fishery products as well. However, Japan's huge demand for fish has been blamed as the major cause of over-exploitation and depletion of global marine fisheries resources. In response to this, and with a view to ensuring that all the resources be conserved and contribute to the well-being of future generations, Japan is now seeking the best way to sustain the utilization of these resources, and believes that the best way to do so is to use 'scientific information and knowledge' as the basis for any management decisions and plans.

Whaling - a big debate

Within the past several decades, 'whaling' has been one of the very important environmental conservation issues - whether and to what extent it should be allowed or not - a debate over absolute protection or sustainable utilization.

Whaling has a very long history in many nations. In Japan, it started in olden times, when most of the harvests were fully utilized, whether they be for food or other purposes. People in other parts of the world also developed their own whaling traditions and utilization. However, in the early twentieth century huge amounts of whales had been harvested by western nations mainly for oil, resulting in a sharp decline in whale populations. For this reason, the International Whaling Commission (IWC) was established in 1948 with a view to managing the utilization of whale resources. However, a few decades later, whaling for oil became no longer profitable, and there arose increasing voices to protect the whales; thus in 1982, the IWC, by the majority of anti-whaling nations, adopted the moratorium on commercial whaling, which prohibited harvests of all large whale species. The moratorium on whaling is still valid, although many scientific research results have clearly

shown that populations of many whale species are abundant enough for sustainable utilization.

Whether whales should be fully protected or some highly abundant species can be used sustainably has developed into a heated debate. Some claim that whales are valuable species for mankind and therefore hunting them is very cruel. On the other hand, some scientists tell us how these top predators compete with human beings in utilizing marine resources. These arguments can continue for a very long time to come until we come up with an agreement.

Conservation vs. Utilization - their impacts to the ecosystem

It should be kept in mind that *not only over-harvesting, but also conservation of particular resources cause an imbalance in the ecosystem*. Absolute protection of particular species increases their population, and in the case of those highest in the food chain, it may end up causing damage to the whole ecosystem and the survival of other species. Scientific information should therefore be fully investigated and utilized to ensure effective yet practical protective measures for the whole resource complex in the ecosystem.

What about other resources?

Of course, it's not only fishery resources that are heavily exploited by humankind. With the growing global population, expected to exceed nine billion by the mid-21st century, people will be in need of more resources but will suffer from resource degradation, food insecurity, emerging environmental crises, and so on. These problems bring us to the same question on how we can manage all the resources and sustain them to serve human demands over the long term. There are examples of both successful and failed efforts. Some advanced technologies help us overcome one problem, but bring back a series of others which are even more serious. On the other hand, many technologies prove to be effective in balancing the resources and environmental protection, while serving the growing demands for utilization by an increasing population.

The differences should be respected!

As mentioned at the beginning, people's lives and cultures have been developed based on specific geographical and environmental conditions, and many other factors. The experience and knowledge were developed, gathered, and passed on from generation to generation. And this kind of process makes people different in many ways although they live on the same planet. These differences should therefore be recognized and acknowledged as the greatest benefit for humankind as they diversify the use of world resources and thus provide human beings with better chances for living.

It is hoped that one day, people would finally come up with the answer to the question of what should be the best solution to ensure the balancing between conservation and sustainable utilization - not only for whales, but also fisheries and other resources for the generations to come.

(This article was written by Ms. Nualanong Tongdee, Information Officer of SEAFDEC, during her training program in Japan which included visits to various governmental and non-governmental fisheries institutions, as well as exchanging views with many people. The article is based on her personal view and does not necessarily reflect any position of the organization on the issue.)

JFA To Hold 7th Int'l Seafood Show in Tokyo in July

The Japan Fisheries Association will hold the 7th Japan International Seafood & Technology EXPO at the Big Site in Tokyo from July 13 to 15. Based on the successful experiences of the previous shows, the JFA expects the coming event will become even larger in scale and attract more visitors.

Newly introduced to the next expo will be the section for fisheries-related biochemical products and technologies, which the JFA hopes will respond to the new demands of the age.

For the successful results of the 6th expo, please see the next page.

Exhibitors' Analysis of the 6th Japan International Seafood & Technology Expo

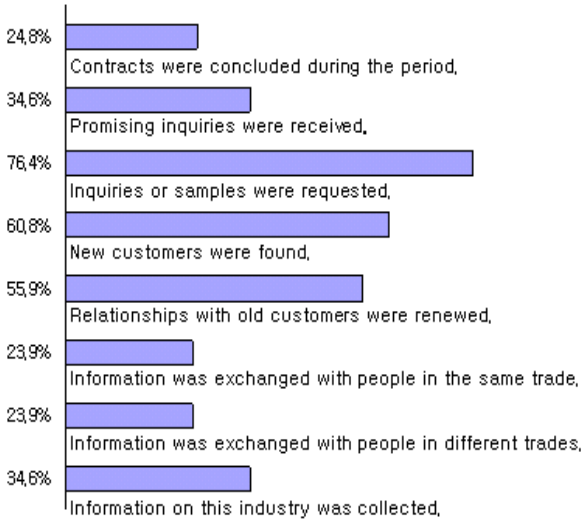
**based on questionnaire for exhibitors (effective response ratio: 93.8%)*

Total:332 exhibitors, 586 booths
(Overseas countries that attended the Expo: 11 countries and 1 area not including Japan)

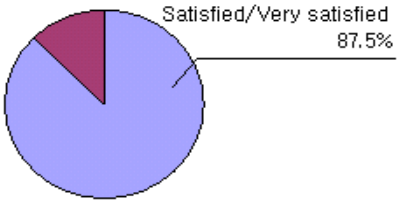
Booths attended by:
22.9 **sales persons for each company on average.**
200 **sales people at the maximum.**
Invitation tickets delivered:
1,276.1 **tickets for each company on average.**
14,000 **tickets maximum**

Deals done during the period:
62 **deals for each company on average.**
552 **deals maximum.**

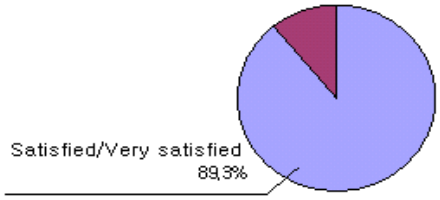
◆Exhibit results



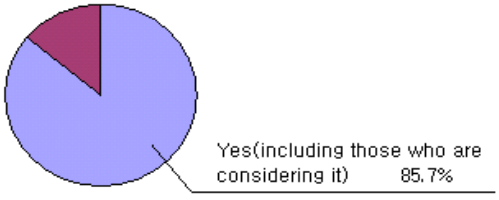
◆Are you satisfied with the number of registered visitors?



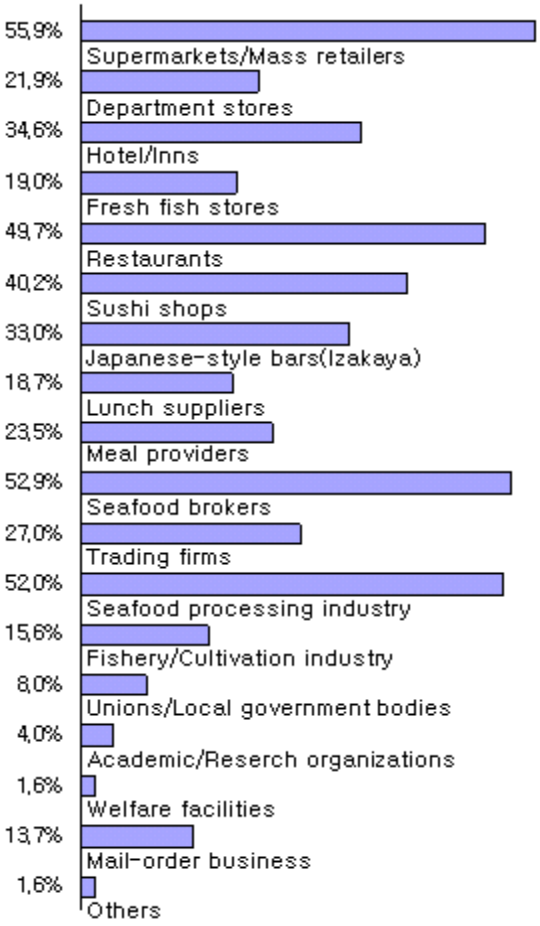
◆Are you satisfied with the kinds of registered visitors?



◆Do you intend to exhibit your products again at the 7th Japan International Seafood & Technology Expo?



◆Business categories of visitors with whom you concluded contracts with



The readers are cordially invited to send their comments on articles in this issue to mnishimu@suisankai.or.jp--Editor