A Simple Way to Maintain the Fish Processing Industry

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Abstract

This paper emphasizes that efforts in the upgrading of the fish processing industry in Southeast Asia should be directed at each country's traditional fish products.

In the coming era, the increase in food production may not match the world's population growth. In this respect, the major challenge for the fish processing industry is the utilization of all fish caught.

Emphasis on development of new products might be one area of responsibility. However, this paper stresses the importance of traditional fish products of each country because these products have survived many decades without any assistance from government or perhaps even society. In other words, there must be some reason for their existence.

When fish technologists are able to help the traditional fish products industry, the industry will play a more powerful role in the future. This paper focuses on a simple and fast way of boosting the fish processing industry in the region by emphasizing on the upgrading of existing traditional fish products.

In my Keynote Address at the last Seminar in 1991, also hosted by MFRD in Singapore, I emphasized that the primary action for fish processing technologists and scientists is to enter the fish processing plants concerned and find out at ground level the subjects which the industry really needs. Since I am still the Keynote Speaker for this Seminar, I will possibly dwell on similar topics.

However, what I want to speak about will not be exactly the same as before. What I really want to emphasize is that you, as fish processing technologists, should identify precisely the fish product which has survived through the centuries while other products have changed.

In 1961, the FAO convened an International Seminar targeted at the fish processing industries in the world, including various parts of Southeast Asia, at Quezon City, Philippines. Dr Kreuzer from FAO, Dr Cutting from the United Kingdom and myself were involved as lecturers. At that time, a new product, fish sausage, was introduced in Japan and its production was increasing. This was attractive because of its cheap price compared with that of meat sausages. The reason for this cheaper fish sausage was due to the lower price of the raw material. Tuna fish was the raw material and the price of the fish was falling because of the possible radioactive contamination by nuclear fallout from the 1954 nuclear detonation at Bikini Atoll.

I was quite enthusiastic to speak about new product development and used the fish sausage as an example. Nobody commented on my speech then. Nearly forty years have passed since the FAO Seminar at Quezon City. However, the production of fish sausage in Japan has dropped to less than 50,000 tonnes per year. This fact, I presume, tells you how difficult it is to achieve any new sustainable product development.

Our world is fast changing and faces many difficulties ahead. Not only are we challenged with a population explosion problem, but we are also faced with the massive task of feeding our people. At this very moment, the total world population is 5.7 billion, of which 3 billion people are living in Southeast Asia. The population experts tell us that the total figure will reach more than 10 billion in the early part of the 21st century. The relation between food supply and population increase presents itself as a dilemma, which is very difficult to resolve.

Recently, some people introduced a word 'trilemma' because human beings are now faced with another problem, that is the destruction of our environment, caused largely by ourselves. Examples include atmospheric contamination by carbon dioxide emitted by the excessive use of fossil fuels, increase of desertification, and destruction of natural forests.

I do not wish to dwell too much on trilemma, but I would like to stress that our world is undergoing tremendous changes. As for fish processing, we should pay more attention to the traditional fish products of our countries. We should study why these products remain popular. I assume that these products have survived the many years because of the food habits and preferences in each country of Southeast Asia. Therefore, the people did not change their preferences for such traditional products but supported them.

Fish sauce such as *nuoc-nam* in Vietnam, *nam-pla* in Thailand, and *patis* in the Philippines are typical examples. The production of similar fermented fish products like fish paste or shrimp paste is still

widespread in this area. Because of the relatively high air temperatures in this region, the distribution of fresh raw fish, molluscs or crustaceans faces difficulties due to the ever increasing price of ice or refrigerated systems. This might be one of the reasons hindering fresh fish distribution! Though I would like to commend MFRD for its excellent activities in fish preservation, which has demonstrated that raw tropical fish keeps better compared to those from temperate waters, the practice of boiling fish prior to distribution is still a mainstay in countries in this region such as Thailand. The people there have become accustomed to boiled fish. In other words, boiled fish has established their position in the people's diet. In addition, fish dried by sun drying is also quite common in this region. Some years ago, I observed good quality dried shrimp along the seaside of Malaysia. Minced products of shark, ray and snapper may be another type of traditional product in this region.

As for comminuted fish products, Dr Shimizu has discovered an excellent technology to remove the fishy smell by soaking raw fish balls. I must emphasise that the comminuted fish products developed in this region is the result of this excellent technology. Smoked fish or fish crackers may be other types of traditional products. Fish crackers, in particular, are very unique in this part of the world. Such sophisticated fish products are seldom seen in other parts of the world.

I do not wish to ignore the problems faced by these traditional products, many of which may not be solved easily. It may be necessary and feasible to establish a standardization for fish sauce as some producers might make secondary extraction from the same raw material. However, modernized production methods may not always be practical. Many years ago, when Vietnam was still under the French regime, certain scientists tried a rapid way to prepare *nuoc-mam* by using papaya which releases a powerful proteolytic enzyme. But no one picked up this quick fermentation method. Before pointing fingers at the conservative industry, we should consider the duration required to mature this product. Thus, this must be one of the subjects fish processing technologists should consider very carefully. The example quoted above is a typical example demonstrating that modern methods of processing are not always practical in the field. The question as to why products of traditional methods of processing are supported by the consumers and public may be a difficult one to answer, but technologists concerned should probe deeply into the subject.

According to the fish resources experts, it is difficult for the total world catch to increase to more than 10 million tonnes. Of this, 28% or a little more than quarter of the total world fish landing is for non-human use. (See Figs. 1 & 2) Efforts must be made to utilize this 28% for human consumption; if not now, we must do so in the future. In this context, the technology behind traditional fish products will begin to command a more important position.

Discussion

After his Key-note Address, Dr Amano encouraged MFRD to find ways and means to make the compilation of fish products in the region as comprehensive as possible and minimize the numerous "NA's" in the inventory and compilation. He commended MFRD for its efforts in sustaining the conduct of the inventory as well as the publication on Fish Products in Southeast Asia which reflects the status of fish and fishery products in the region.

Disposition of World Fish Production

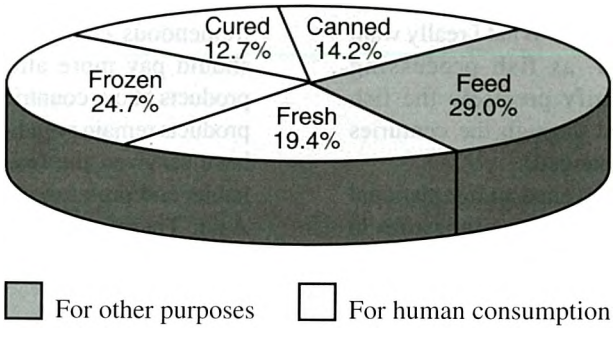

Fig 1. Percentage of world total fish production in live weight in 1983 (FAO/FIDI, 1995).

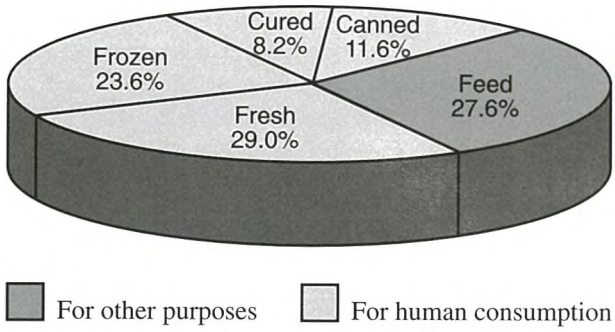

Fig 2. Percentage of world total fish production in live weight in 1993 (FAO/FIDI, 1995).