

Consumption trends and habits for aquatic products in China

Zhang Xiang-guo

College of Economics & Trade, Shanghai Fisheries University, P. R. China

ABSTRACT: Aquatic products, a main source of protein in human food consumption are also an important item in Chinese food consumption. In the last twenty years, especially, Chinese fishery has made great strides forward, the total volume of aquatic products has increased very rapidly, and the overall production capability has been greatly strengthened in fisheries. Since the 1980s, the average annually increasing rate of fisheries harvesting has reached 8.8% in volume. The landing volume of aquatic products of China has ranked first among the world fisheries countries since 1990. The total output of aquatic products of China in 2000 reached 42.79 million MT in volume, 60% of which was contributed by freshwater aquaculture and marine aquaculture.

China is a large developing country with 1.29 billion of population, where the per capita income is continually rising; the population is also increasing, so that the demand for human edible consumption of aquatic products is increasing significantly. In recent years, despite the steady increase in domestic aquatic products, more and more imported aquatic products have appeared in the China's fish markets.

1. FISHERIES PRODUCTION IN CHINA

1.1. Introduction

China is a major fishing nation with a huge marine resource area of her own. Four seas span from tropical to temperate zones, the Bohai Sea, the Yellow Sea, the East China Sea and the South China Sea, with a surface areas of approximately 4.83 million square kilometers. The marine fisheries resources consist of more than 150 species, with greater and little yellow croaker, largehead hairtail and cuttlefish (squid) were the four traditional species that are the basis of Chinese marine fishing industry in the past several decades.

China also has a long history in freshwater aquaculture, and the dates could be backed to more than 3000 years ago. China has more than 18,000 kilometers of coastline, and about 13,300 square kilometers of shallow waters (inshore waters) and flat mud areas that could be used for marine aquaculture.

1.2. Production over the last two decades

The Chinese fisheries production has been rapidly progressing in the last two decades. Table 1. shows the annually Output of Chinese Fisheries by production category from the year of 1996 to 2000.

1.3. Overall importance of Chinese production

The production volume of Chinese aquatic products ranks it among the first among the world fisheries countries since 1990. The total production volume of Chinese aquatic products reached 42.79 million MT in 2000, that is more than seven times that of 1978, and the harvesting of aquaculture increased 15.6 times over the same period. In 2000, the ratio of aquaculture's volume was 60% of total volume of aquatic products in China, though it had only been 26% in 1978. The per capita consumption of aquatic products has been increasing yearly, standing at 33.8 Kg in 2000, a startling increase from 4.8 Kg in 1978.

	1996	1997	1998	1999	2000
Total Fishery's Output	32881	36018	39067	41224	42790
Marine Fishery's Output	20129	21764	23567	24719	25387
Of which: Fishing	12490	13854	14967	14967	14774
Aquaculture	7639	7910	8600	9743	10613
Inland Fishery's Output	12752	14254	15499	16505	17403
Of which: Fishing	1763	1887	2280	2285	2233
Aquaculture	10990	12367	13219	14220	15169
Marine Fishery's Output	20129	20129	23567	24719	25387
Of which: Fin-Fish	8235	9642	10560	10581	10327
Crustacean	2046	2256	2586	2771	2970
Shellfish	8527	8242	8705	9591	10389
Algae	929	980	1041	1194	1222
Other	391	644	676	582	479
Inland Fishery's Output	12752	14254	14254	16505	17403
Of which: Fin-Fish	11883	13249	14259	15168	15786
Crustacean	364	480	602	707	860
Shellfish	403	374	460	435	480
Other	101	151	179	194	276

Table 1. Annually Output of Chinese Fisheries by production category from the year of 1996 to 2000 ('000 MT)

In 2000, the annual increase of total national landing of aquatic products was 3.8%, while it reached 8.9% in marine aquaculture. Marine aquaculture was the fastest-increasing fisheries sector in recent years.

1.4. Rate of increase has led to environmental measures

Because of the constraints on the natural environment, fishery resources, aquatic product processing methods and industrial investment, the type of harvesting in Chinese fisheries production has been changing. In making a comparison of the harvesting volume in 2000 to that in 1999, the following facts emerge: the output of marine fin-fish decreased 254.0 thousand MT, which rate of decrease was -2.4%; the output volume of shellfish products increased to 798.6 thousand MT, with the rate at 8.33%; the output volume of shrimp and crab products increased to 199.3 thousand MT, a rate of increase of 7.19%. In addition, in order to protect the natural environment and utilize wild fishery resources in an appropriate manner, the Chinese government has launched severe restraints on the production of capture fisheries since 1999. However, it is clear that the negative increment of the annually harvested volume of marine and inland capture fishing will be continually increasing in the near future in China.

It is estimated that the harvesting of Chinese domestic aquatic products will keep increasing, but most of the increase will come from fresh water aquaculture and only a small amount from marine aquaculture.

2. CONSUMPTION OF AQUATIC PRODUCTS IN CHINA

2.1. The Chinese market

China is a developing country with a large population and extensive land areas with vastly different natural environments. At present, the fisheries production is still greatly affected by the conditions of the natural envi-

ronment. The consumption of aquatic products is affected by people's traditional customs, population constitution, resident' disposable income level, the product's distribution channels and method and so on.

2.2. Adoption of Open Policy

China adopted the Open Policy more than twenty years ago, and there have gradually formed some different consumer groups among the aquatic products' consumers in mainland China, because of the diversity of disposable income in different areas and different consumers. People are not satisfied with their ability to purchase any type of fish: they want to choose different species and different qualities of aquatic products, according to their standing in individual consumer groups. Most consumers are now beginning to choose what they consume, namely consumption is based more on the quality and species of aquatic products than before.

2.3. Effects of rise in disposable income

According to the household sampling survey of 500 families carried out by the survey groups of Statistic Department of Shanghai in 2000, the annual average expenditure per capita in Shanghai was US\$ 1,072, an increase of 7.5% in comparison with the previous year. Since this was higher than that of disposable income, that means that the average person's living standard was increasing. According to the survey the citizens of Shanghai paid more attention to the increase of living quality than before. "Paid for health" has become a fashion trend for Shanghai residents, therefore expenditure per capita for health-care products, including food consuming was 55.8% more than that in previous year. Moreover, because of the diversity of residents' incomes, a multi-polar expenditure in citizens' consumption obviously appeared. In 2000, among the 500 families which were surveyed, in which about 10% of the lowest income families had a lower level of consumption, the annual average expenditure per capita was US\$ 649.6, while in about 10% of the highest income families, the annual average expenditure per capita was US\$ 1797.4. The average consumption value of the 10 % lowest income families was equal to only 36% of that in the 10% highest income families. More and more higher income families have more opportunity to eat in restaurants or outdoors, and they are consuming more expensive food. So there is increasing demand for high-value aquatic products and higher price with higher quality imported seafood, which is little or never satisfied by domestic fishing fleet. With reinforcing open policy in Chinese economy system, especially in the western part of China, increasing disposal income per capita and improving citizen's living standards will be more rapidly in most part of China in near the future.

2.4. Other factors accounting for change in expenditure levels

While per capita income level played an important role in determining a city's per capita expenditure on seafood, eating habits and easy access to seafood also affected expenditure levels.

Table 2. shows that different percentage of per capita expenditure of aquatic product to disposable income in seven cities in 1997.

Residents in coastal cities, such as Shanghai, Guangzhou, Dalian and Qingdao, on average per capita spend a larger percentage of their annual income on seafood than their counterparts in inland cities, such as Beijing, Chengdu, and Chongqing. In 1997, seafood expenditure expressed as a percentage of annual income for residents in Shanghai, Guangzhou, Dalian and Qindao was 7 percent, 4 percent, 6 percent, and 5 percent respectively, compared to 2 percent for residents in Beijing, 1 percent for Chengdu, and 1 percent for Chongqing.

The annually per capita average consumption value of aquatic products within the country as a whole was follows:

Name of cities	%
Shanghai	7
Guangzhou	4
Dalian	6
Qingdao	5
Beijing	2
Chengdu	1
Chongqing	1

Table 2. Percentage of per capita expenditure of aquatic product to disposable income in 7 cities in 1997.

(Unit of value is RMB Yuan, and one US dollar equals to about 8.27 RMB Yuan)

Area	1986	1997	1998		1999	
	Value	Value	value	%*	value	%*
Town and city (per capita)		140.98	142.46	3.29	143.96	3.12
Rural area (per family)	15.48				21.62	

*: Mean percentage of annual consumption value of aquatic products to total expenditure for residents in cities and towns.

Table 3. The annual per capita average consumption value of aquatic products within the country taken as a whole.

The annual per capita average domestic consumption value of aquatic products for different parts in China were as shown in Table 4.

2.5. Nature of change in aquatic food consumption

The Eastern part of China is one of the main traditional aquatic production areas, and average per capita domestic consumption volume has not increased in recent years; Moreover, there is a group with higher incomes accounting for 10% of the population in those cities, whose way of life and social activities are changing, with a resultant increase in the consumption of aquatic products in restaurants rather than at home. This type of clientele tends to consume higher-value aquatic products. Therefore, in 2000, among China's overall imported aquatic products, high-value aquatic products occupied a more prominent position than in the past so that there will be a larger potential market for middle and lower value aquatic products.

(Unit of value is RMB Yuan, and One US\$ equals to about 8.27 RBM Yuan)

Area	Population (the year of 2000)	% of population to total population in whole country (2000)	% Volume of Aquatic production (MT) (2000)	1986	1999	Increment (%)
Eastern part	0.514 (billion)	39.7	80	29.80	39.44	32
Middle part	0.482 (billion)	37.3	18	7.7	14.63	90
Western part	0.298 (billion)	23.0	2	3.80	7.54	98

Table 4. The annual per capita average domestic consumption value of aquatic products for different parts in China.

As presented by the random sampling survey in Shanghai, Beijing, Guangzhou, Dalian and Qingdao in Jun and July of 2001, about 10%~40% of people who were investigated had consumed imported salmon.

An investigation into consumer behaviour and knowledge of imported salmon was undertaken in June and July of 2001 in Shanghai and Qingdao. A random selection of 1000 and 122 completed the questionnaires in Shanghai and Qingdao respectively.

The survey results for the one of the questions are summarized as follows:

Question: Did your family consume any salmon or salmon products? If did, where did the salmon came from?

(1) Shanghai

Answer chosen	Yes	Percentage %
Consumed, Norwegian salmon	68	6.8
Consumed, Alaska salmon	32	3.2
Consumed, Not sure	265	26.5
Never consumed	635	63.5
Sum	1000	100

(2) Qingdao

Answer chosen	Yes	Percentage %
Consumed, Norwegian salmon	4	3.3
Consumed, Alaska salmon	2	1.6
Consumed, Not sure	1	0.8
Never consumed	115	94.3
Sum	122	100

It is generally believed that the majority of consumers ate seafood at restaurants, although there was a growing trend for home consumption.

2.6. Value of imports

In 2000, in comparison with previous years, the rate of increase of imported aquatic products was quite high and the increasing rate of imported aquatic products was much higher than that of exported aquatic products, both in volume and value. The annual import value was US\$ 1.85 billion, up from US\$ 1.29 billion in 1999, and it increased by 42.3%, up from 26.6% in 1999. Deducting the industrial products including fishmeal, the actual volume of import aquatic products reached 1.328 million MT, up from 0.67 million MT in 1999, increased by 97%. Also, the actual import value reached US\$ 1.27 billion, up from US\$ 0.93 billion in 1999, increased by 36.6%.

2.7. Importance of quality

At present, quality, rather than price, is considered to be the most important factor affecting seafood purchasing decisions of Chinese consumers. Chinese consumers were believed to have certain quality perceptions about seafood from different national sources, but the majority of the consumer-oriented promotional activities were considered to be important marketing tools for seafood suppliers to create awareness and generate interest for their products.

According to investigations concerning potential consumption and imported seafood wholesale in mainland China, it is considered that, at present, the consumption market of imported high-value seafood is still in the initial stages. Due to lack of the perceptual knowledge on the quality of imported high-value seafood, such as salmon, by the consumers and even by wholesalers and retailers, consumers and wholesales are paying more attention to the species and price, rather than quality, of the seafood. So there is a need to cultivate a healthy seafood market quickly, to increase ability to recognize the quality of high value seafood, to enhance trust between consumers and sellers and wholesalers in mainland China.

2.8. Effect of China's accession to the WTO

China's accession to the WTO will undoubtedly speed up the standardization of international seafood trade and aquatic product markets in China. China's seafood imports will be expanded so as to meet the continuously increased need to high-value seafood for Chinese high-income residents. For instance, although the aquatic

product consumption per capita in Shanghai is about 60% of that in Hong Kong, and the population in Shanghai is 2.47 times of that in Hong Kong, but the imported chilled fresh salmon in Shanghai in 1999 was only 60 MT, while that in Hong Kong was 5500 MT. In 2000, however, Shanghai imported 245 MT of Fresh and chilled salmon, a 400% increase from 1999. It is undoubtedly true that the same trend will appear or has appeared in Beijing, Guangdong province and other East Regions of China.

From now on, as a result of increasing Chinese population and the increased consumption per capita, the total increase of imported middle and high-value seafood will surpass that of other countries in the world. China's accession to WTO will help to expand the international trade between China and other countries, to improve the species constitution of seafood conflicts between domestic seafood supply and demand.

3. CONCLUSION

China is a large developing country with 1.29 billion of population, where the per capita income is continually rising; the population is also increasing, so that the demand for human edible consumption of aquatic products is increasing significantly. In recent years, despite the steady increase in domestic aquatic products, more and more imported aquatic products have appeared in the China's fish markets.

China has great potentialities to consume aquatic products; it can be taken for granted that China will become the largest fish market in the world.