

## **ON THE POWER STRUCTURE OF AQUATIC PRODUCT SUPPLY CHAIN IN CHINA**

WANG Feng, China Agricultural University, [W\\_fe@163.com](mailto:W_fe@163.com)  
ZHANG Xiaoshuan, China Agricultural University, [zhxshuan@sohu.com](mailto:zhxshuan@sohu.com)  
WU Weisong, China Agricultural University, [wsmu@cau.edu.cn](mailto:wsmu@cau.edu.cn)  
FU Zetian, China Agricultural University, [caufzt@yahoo.com.cn](mailto:caufzt@yahoo.com.cn)

### **ABSTRACT**

It is helpful to keep the stability of aquatic product supply chain and promote higher development of fishery economy to research power structure of aquatic product supply chain. This paper analyzes the power structure of aquatic product supply chain via the behavior theory in marketing discipline, cased study by Beijing and Guangdong province. The result shows the main reasons for lower operational performance in aquatic product supply chain are rather unbalance cost and benefit of power structure across the supply chain.

### **Keywords:**

Aquatic products; Power structure; Supply chain; Contract; Operational performance

### **INTRODUCTION**

China is a big country in aquatic production, consumption and export. Although there has a good situation in aquatic production and export in recent years, that can not cover up the problems in development of China's aquatic products. In that, the distribution channels of aquatic products supply chain is an important issue that need to solve.

### **THE DISTRIBUTION CHANNELS AND POWER STRUCTURE OF AQUATIC PRODUCTS**

The problem has aroused the concern of scholars. Luo Biliang(2000) analyzed the efficiency of different distribution organization form using the theories about transaction costs and structure of property rights; Zhou Liqun(2001, 2002) discussed contractual nature and content in distribution organization forms of agricultural products from economics perspective; Zhang chuang(2005, 2006)analyzed the power structure of agricultural marketing channels; Fang jin(2006) researched the issue of quality and safety of aquatic products from the industrial organization structure and behaviour perspective, which involved the relationship among the main circulation actors, but not for in-depth study; Guo Suzhen(2006) compared the different characteristics of five kinds of agricultural products sales channel modes, and analyzed sales channel members simply, but not for the research on the power relations among them. From that it can be seen that there are very few research on distribution channels of aquatic products from the perspective of the channel behavior theory.

At present, the relation among aquatic products supply chain members (farmers, processing actors and distribution enterprises) is relatively loose and temporary. Basically, the actors are spontaneous and in shortage of information exchange, so they can not grasp the real needs of consumers and in charge of market changes. Whether the fish farmers or aquatic products processing enterprises and other actors, they hope to gain greatest profits and more competitive advantage. Besides the external factors such as market price, these may cause opportunism and conflicts of supply chain members, so as to instability of aquatic products supply chain operation.

Based on the above, the paper aims to keep a better supply chain operation and promote operating performance of aquatic products circulation channel by analyzing the behaviors and power relationship among members of aquatic products circulation channel.

## THE CIRCULATION CHANNEL AND POWER STRUCTURE

At present, in China the aquatic products circulation worked in the three main market system: origin wholesale market, the sale wholesale market and retail market. But as the emergence of new retail trade such as supermarkets and convenience stores, the traditional distribution channels are changed. Figure 1 depicts the current actors in the China's aquatic products distribution channels.

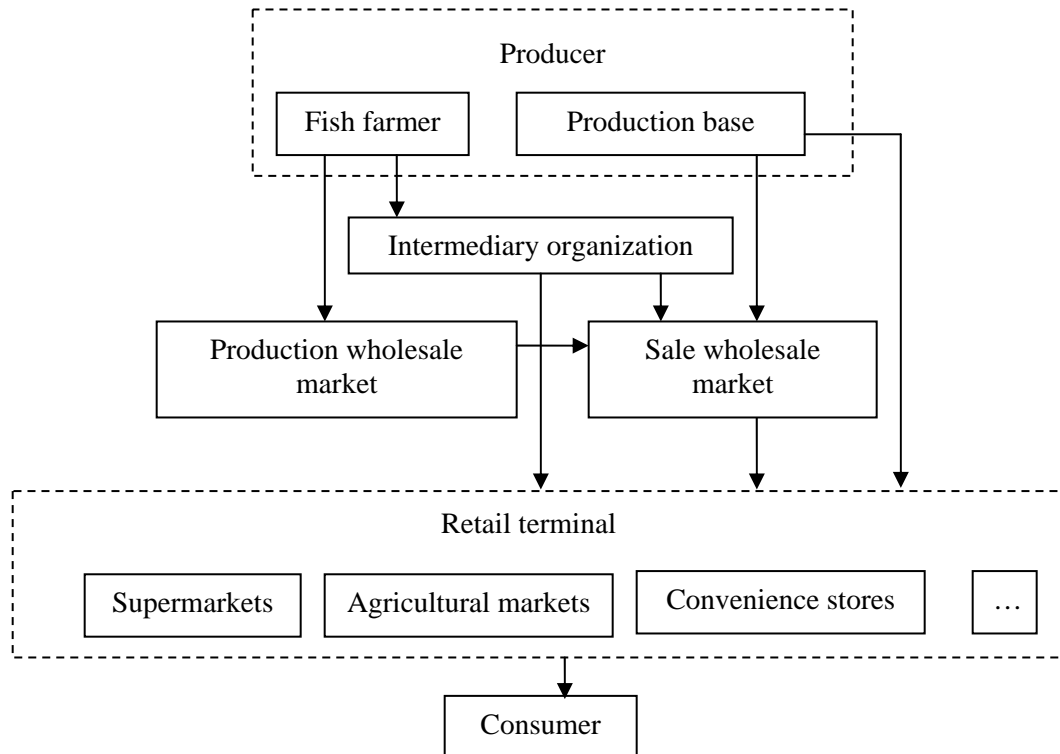


Fig1. The circle channel of aquatic products and main participants

From the figure it can be seen that there are three major procurement channels: production base, intermediary organization and the wholesale market. In which, the second procurement channel is main. There are also a certain amount of supplies from the wholesale market.

In the distribution channels, the main participants include producers, wholesalers, brokers and retailers, who bear responsibility of stock, organization and financial risks. Also there are other participants, such as transportation, warehousing, packaging, handling, processing and distribution, who provided essential and supplemental services for main participants, and charged for them. So they can be named relevant organization.

After the industrialization of agriculture, the major economic organization forms of rural areas experienced the process: cooperatives, “leading enterprises + farmers” and “leading enterprises + intermediary organization + farmers”(Zhou Liqun and Cao Liqun, 2001). There are some flaws about the first two organization forms, for example, the cooperatives have no sufficient funding and lack of collateral assets, also the contract between leading enterprises and fish farmers is imperfect, so as to the restraint on both sides is not effective. After the introduction of intermediary organizations, the shortages

of original system are reduced at some extent, so the third organization form has become the main. But that can not solve the problem on contract effectively, moreover, in China the development of intermediary organization is at an early stage, there are many restriction for intermediary organization on relevant laws and regulations.

Besides the above analysis, taking into account the fish farmers as the basic organizational unit of fisheries production and circulation of aquatic products, they are in a weak position and interests are not protected, so the following research objects are power relation of the actors in aquatic products circulation organizations, who have direct relation to fish farmers.

### **Fish farmers-wholesalers**

The wholesale market plays an important role in circulation of aquatic products, which can concentrate aquatic products around regions and complete transactions in a short period of time. In this channel, the aquatic products producers generally sell to local wholesalers directly or by the wholesale market.

The operation features are the wholesalers purchase aquatic products by one-time acquisition. They don't need to sign the contract, and the price is decided according to the market. After the completion of the transaction, the rights and obligations of two sides will come to the end. So it is a short-term trading. Also the dependence on each other is very Low. The barriers to entry and exit barriers are low. The transaction is similar to the classical contract. Both parties seek to maximize their own interests, so it can not construct long-term transaction relationship. In this way, the problem that aquatic products are difficult to sale is soled to some extent and that promote the development of fish production. However, the relationship between wholesalers and fish farmers is purely market exchange which is instable, they are not responsible for each other. The fish farmers is the passive price recipients, who provide raw aquatic products, also the wholesalers are not fixed recipients for aquatic products. So the relationship between families and wholesalers is extremely loose.

The operation efficiency of the mode is very low. Firstly, the population of fish farmers is large and the scale is small, so the times of transaction increase and success rate is relatively low, the market risk will increase. Secondly, the wholesale markets can not provide aquatic products processing, handling and relevant functions, the fish farmers can only get parts of the value of aquatic products but not acquire the value-added. Therefore, the power structure in channel relations is a low degree balance and extremely instable.

### **Fish farmers-leading enterprises**

The organization mode is also termed as "order agriculture". Generally, leading enterprises include aquatic products production and processing, who trade with individual fish farmers directly. The responsibility and obligation are defined by the contract. The operation is characterized as: the fish farmers provide aquatic products required volume, quality and size in accordance with the contract; the leading enterprises purchase, producing, processing and sales, and provide some service such as farming technology and relevant information.

Comparing with the fish farmers and wholesalers of aquatic products, this channel relation is relatively stable, which remedy the shortage of small-scale production by combining the large-scale markets and small-scale farmers. That maintains the independence and autonomy of fish farmers as basic organizational unit and brings advantage of production and processing from leading enterprises. The operational performance is improved. However, some problems still exist: the effectiveness of contract is weak and the coordination is difficult. Moreover, aquatic products market is variable (natural variables,

economic variables, etc.), these will inevitably bring opportunism. The behaviors are described as: after the contract was signed, when the market price is higher than the contract price, fish farmers will sale aquatic products to other enterprises or individuals, on the contrary, the enterprises may not purchase the aquatic products from fish farmers.

For the above opportunism, it needs to decide whether to request a third party to regulate (Zhou Liquan and Cao Liquan, 2001). If fish farmers don't comply with the contract, the cost-benefits analysis will be made by leading enterprises: the benefits are compensation of individual fish farmers, the costs are fees for appeal for court. For a single fish farmer, the trading volume are small, costs of litigation are more for the enterprises. If fish farmers don't comply with the contract, the leading enterprises generally keep silent. On the contrary situation, the single fish farmer can not afford the higher appeal fees. They also may keep silent. According to empirical study finding on power, conflicts and cooperation from Zhuang Guijun (2002), for a individual the power is bigger, it is more inclined to use non-coercive power. In this organization mode, the leading enterprises decide and influence the species, size and structural adjustment of aquatic products, so they reflect the demand for aquatic products.

Based on the above analysis, the discrepancy between leading enterprises and fish farmers in scale and strength are rather big. So as to the power structure is inclined to the leading enterprises, which influence the power effectiveness of each party. So the organization mode is not stable.

### **Fish farmers-cooperatives-leading enterprises**

In this organization mode, the function of intermediary organization is link between fish farmers and leading enterprises, which have no product ownership, and is not involved in the price decision-making, but creates a platform for the leading enterprises and fish farmers by virtue of their familiarity with the production situation in some regions. They will take a certain percentage of the rebate after trade completion.

The roles they play include three parts (Zhang Chuang, Xia Chunyu 2005): firstly, they sign contract with leading enterprises but not fish farmers and assign the major production tasks to the fish farmers; secondly, they provide various services for the fish farmers; thirdly, they inspect and grade according to the agreement together with the leading enterprises.

In China, relationship is a resource used for mutual trust and cooperation among people, also it is an important variable influencing success of commercial activities (Zhuang Guijun and Xi Youmin, 2004). In distribution channels, personal relationships (cooperatives) affect the use of power: when there happen conflicts between fish farmers and leading enterprises, cooperatives will communicate with parties as a coordinator.

The cooperatives remedy the shortage of mode "fish farmers + leading enterprises" by the supervision and restraint to the fish farmers and leading enterprises. At the same time, decrease the costs of transaction, contract, implementation and supervision by providing some services. Therefore, they can keep stable quality and price of aquatic products and realize internalization of external markets. Thus the organizational mode promotes the stability of communication, corrects and improves lean of power structure in mode "fish farmers + leading enterprises", and promote the operation performance.

However, the problems still exist: the contractual relationship exist among leading enterprises, cooperatives and fish farmers, as long as the opportunist motive be, there will have the nonfulfilment behavior. In addition, in China the development of cooperatives is in an early stage, the scale and strength are small and weak, lack of legitimacy, and so on. These limitations restrict the function of cooperatives. There exist new "non-compliance" among cooperatives and enterprises.

Based on the analysis of the three distribution channels, the characteristics of power structure is summed up as shown in table 1.

Table1 the comparability of three distribution organization modes

Organization mode	Characteristics of power structure		Operation performance
	Incline of power	Characteristics of contract	
Fish farmers-wholesale market	-	Classical contract, temporary transaction, unstable	lower
Fish farmers-leading enterprises	Imbalance in the size and strength, serious lean to leading enterprises	Restrict loosely, Opportunism, extremely unstable	low
Fish farmers-cooperatives-leading enterprises	Light lean to leading enterprises	Improve contract stability, new "non-compliance"	high

## CONCLUSION

Based on the above analysis, the main outcomes and proposals can be outlined as follows:

- In the mode “leading enterprises + fish farmers”, fish farmers depend on the leading enterprises strongly, so as the power between fish farmers and leading enterprises is extreme unbalance. The power structure is inclined to leading enterprises. The organization mode is unstable.
- According to theory of channel behavior, the construction of relationship among the member of channel is based on dependency on each other’s resources. The resources are not only a premise to entry into cooperative relation, but also the basic assurance for exerting power. For example, if fish farmers breed a special aquatic products, which is in scarce in market, the power structure may be inclined to the fish farmers, so the power structure is more balanced.
- The intermediary organizations play an important role in assuring transaction stability, and correct the lean of power structure, and promote the operational performance of distribution channels. But the development of cooperatives still exist some problems.

## REFERENCES

- Fang Jin, Wang Renqiang and Hu Jilian, 2006, The construction of organization of aquatic product industry based on quality and safety, *China fisheries economics*, 3, pp. 37-42.
- Guo Suzhen, Tang Lixin, 2006, Analysis on sale channel mode of agricultural products and participants, *Journal of Yangtze University(Nat Sci Edit)*, 3(3), PP. 194-196,200.
- Lu Shichang, Feng Guixiu, 2004, Game analysis of channel conflicts, *Science technology and industry*, 9, PP. 6-9.
- Luo Biliang, Wang Yurong and Wang Jingan, 2000, A Framework for Analyzing the Efficiency Determination of Institution of Agricultural Marketing Organizations, *Problems of Agricultural Economy*, 21(8), PP. 26-31.

Zhang Chuang, Xia Chunyu, 2005, Marketing Channels of Agricultural Products: Force Structure and Organization System. *Problems of Agricultural Economy*, 7, PP. 28-35.

Zhang Chuang, 2006, Excessive Asymmetry of Marketing Channel Power Structure and Power Invalidation-Research Based on the Agricultural Product Distribution Channel, *Collected Essays On Finance and Economics*, 5, PP. 96-101.

Zhou Liqun, Cao Liqun, 2002, Goods contracts is superior than factors contracts, *Economic Research Journal*, 1, PP. 14-19.

Zhuang Guijun, Zhou Youlian, 2002, Power, conflict and cooperation: empirical research on channel behavior of Chinese business enterprise, *Management world*, 3, PP. 117-124.

## **ENDNOTES**