



Research on the Current Situation of Development and Utilization of Marine Fishery Resources

Chaojie Yang^{1*}, Lixia Yang², Jinling Li¹, Enni Wu¹, Ruo Su¹, Yue Su¹

¹Hainan Tropical Ocean University, Sanya 572022, Hainan, China. E-mail: yangchaojie1986@163.com

Project: Hainan University Education and Teaching Reform Research Project(Project number: Hnjg2020-89).

Abstract: Since the reform and open-up, China's marine fishery has developed rapidly, but it has also caused some practical contradictions. The focus is on the contradictions between overfishing and depleted fishery resources, and the continuous decline of marine fishery resources. The environmental destruction of marine resources and the sanitation and safety of marine aquatic products restrict the sustainable development of marine fisheries in the future. This article discusses the current situation of the development and utilization of marine fishery resources in China, and proposes some optimization measures for marine management in view of the current difficulties faced by marine fisheries.

Keywords: Marine Fishery; Resource Development and Utilization; Sustainable Development; Measures

Marine fishery resources are an important natural resource in China, and its development and utilization directly affect the contribution of marine economy to the national economy. Therefore, building a marine ecological balance, ensuring the economic growth of fisheries, and improving the production welfare of fishermen are vital to the sustainable development of the marine fishery economy. Only by guaranteeing the healthy and steady development of marine fisheries can the supply of aquatic products be stabilized, the income of the fishermen's economy be increased, employment and production be promoted, and the development of coastal cities be promoted. It is an important part of the sustainable development of China's agricultural industry and the national economy.

1. Current status of development and utilization of marine fishery resources in China

1.1 Excessive exploitation of marine fishery resources

According to statistics, there are more than 20, 000 species of aquatic organisms recorded in the seas of China, including a large number of marine organisms shared by the world, as well as many marine organisms unique to China's sea areas. In recent years, due to the insufficiency of marine fishes to form catching seasons, the few fishing days are less and the income of fishermen is low, which has made low-value fish become the main growth point of the marine fishing industry. Besides, it has also caused the overexploitation of marine fishery resources. This phenomenon of indiscriminate catching and indiscriminate exploitation has led to the destruction of the marine ecosystem.

1.2 The marine fishery industry has high investment and low returns

China's marine fishery industry has a huge industrial scale, but the profitability of the fishery industry is very low, and it has not achieved a positive ratio. It is understood that China's fishery labor force per capita catches and catches per square kilometer in the offshore waters are both low, not as good as Norway, Japan and other countries. At the same time, China's offshore fisheries are not optimistic, and the fishing amount is very small, taking account for less than 1% of the world's marine fisheries.

Copyright© 2020 Chaojie Yang et al.

doi: 10.18686/ahe.v4i10.2929

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (http://creativecommons. org/licenses/by-nc/4.0/), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

²Sanya Affiliated Middle School of Shanghai International Studies University, Sanya 572029, Hainan, China.

1.3 Low utilization rate of marine biological resources

Due to the backwardness of fish refrigerated transport vessels and preservation technology, there is about 10% of the total amount of fish caught by fishermen that had to be discarded due to deterioration, and most of them are discarded before it could be transported ashore that directly into the sea, which not only causes extreme waste of aquatic resources, but also has a bad impact on the marine environment.

1.4 Deterioration of marine fishery environment

According to the *Communiqué* on the State of China's Fishery Ecological Environment in 2018 by the Ministry of Agriculture and the Ministry of Environment, China's marine fishery ecological environment resources are relatively stable compared with 2017, but local fishery waters are still polluted seriously, and the main pollutants are nitrogen and phosphorus. Marine fishery water pollution accidents have shown a good trend of decline compared with previous years. The economic loss of natural marine fishery resources reached 10.217 billion yuan, accounting for 89.8% of the total natural fishery resources. These problems show that the ecological environment in China's coastal areas is still extremely deteriorating, the species of marine organisms are still declining, rare species are endangered and extinction, and illegal activities that damage the marine ecology have not been completely curbed.

2. Countermeasures for the sustainable development of China's marine fisheries

In summary, the development and utilization of marine fishery resources in China are not optimistic, and it still faces many difficulties and problems. In order to effectively improve these problems and promote the sustainable development of marine fisheries, the author believes that the following aspects should be considered:

2.1 Protect and restore fishery resources

Overfishing is an important reason for the reduction of marine species. Therefore, in the future, the marine fishing industry must implement the "zero growth" policy, and realize the conversion of fishermen in coastal cities through various effective measures and methods, so as to reduce the fishing intensity and promote fishery resources and recover the environment slowly. Secondly, the fishery management department should formulate reasonable fishery resource management regulations, and collect fishery resource operator taxes as resource loss compensation fees and resource taxes. Thirdly, it is needed to promote marine fishery resources and international trade and between different fields, to actively cooperate based on the principle of mutual benefit, and to promote the sustainable development of some regional fishery resources through various modes of cooperation. Finally, it is necessary to carry out some targeted fishery resource enhancement activities, and speed up the increase and recovery of fishery resources. The recovery of marine fishery resources should be as soon as possible and the protection of the diversity of marine aquatic organisms will ultimately increase the awareness of fishermen and all walks of life in the protection of marine resources and promote the sustainable development of marine fishery resources.

2.2 Strengthen the protection of the fishery ecological environment and improve the awareness of environmental protection

The implementation of any important system requires law as its strong backing. In terms of strengthening the protection of the fishery ecological environment, first, it is necessary to strictly implement the *Marine Environmental Protection Law*, the *Fishery Law* and other relevant laws and regulations to achieve the goal. There are three necessities: First, laws must be followed, law enforcement must be strict, and violations must be investigated. Second, the fishery management department should increase the publicity and education of marine ecology and environmental protection, so that individuals and enterprises can deeply realize the necessity and importance of protecting the fishery ecological environment, and encourage everyone to respect and abide by the law, and jointly establish a marine fishery ecology to reduce environmental barriers. Third, the establishment of a marine environment monitoring network platform, to regular necessary monitoring of fishery waters, breeding waters, fish spawning grounds and fish migration channels, etc., to form real-time monitoring of marine water pollution. Through the marine environment monitoring network, the platform will publish and display the results, and urge rectification. Fourth, the fishery management department also needs to monitor various matters concerning the ecological environment of the fishery waters, especially the analysis of the causes of pollution in the waters, conduct strict investigations on the sources of pollution, and use the means of "prevention first, combined prevention and control" to minimize marine pollution accidents. Fifth, in order to increase the importance of protecting marine resources and curb the recurrence of some pollution incidents, it is necessary to establish reasonable pollution compensation measures, and resolutely impose

environmental protection taxes on the enterprises that have affected the environment. They cannot be allowed to develop without restrictions.

2.3 Optimize and adjust the structure of the fishery industry

Optimizing and adjusting the structure of the fishery industry plays a key role in the sustainable development of the fishery economy. At present, China's marine fisheries should increase the cultivation and development of deep-sea fisheries, while at the same time reducing the fishing intensity of offshore fisheries, effectively integrating marine fishery resources, and enabling them to develop in a balanced manner. For example, adopting fiscal and taxation measures to promote enterprises to change their business models to develop offshore fisheries. In addition, enterprises should strengthen the improvement of fish product processing technology and level to improve the quality of products. For example, in the processing of aquatic products, aquatic health products, pharmaceuticals, etc., it is needed to slowly improve the functions, effects, and technology of the products.

2.4 Speed up technological innovation and transform the growth model of fishery economy

The development of China's traditional marine fishery economy purely pursues economic benefits, so that today, we have to face the complicated development situation of marine fishery today. In order to realize the sustainable development of marine fisheries, it is needed to curb the previous indiscriminate fishing behavior and switch to standardized mining, thereby realizing the transformation of economic growth mode and meeting the essential needs of improving the marine ecological environment.

2.5 Improve the fishery production and commercialization standards to improve the quality of aquatic products

In order to improve the quality of aquatic products, a network system for aquatic product quality inspection should be established first, and relevant departments should undertake related works of fishery water quality monitoring, aquatic product inspection, and aquatic life epidemic prevention. Secondly, it is necessary to recognize the industry situation that promotes China's Oceans Fisheries are in line with international quality standards, to advocate the development of green aquatic products, improve the quality management system of fishery production, do a good job in the food quality certification of aquatic products, and establish brands of aquatic products and establish a high-quality product reputation. Therefore, aquatic products can be better sold at home and abroad.

2.6 Continuously increase government support

Marine fishery, as an important industry in the development of the national economy, should arouse full attention and be given more government support. Through measures such as increasing financial expenditures and investment in fishery research, the sustainable and stable development of the marine fishery economy has been promoted. At the same time, supporting transportation, market and other facilities should be established, and some relevant policies have been promulgated to actively encourage the industry and supervise the development of marine fisheries towards technological development, guide the rapid adjustment of fishery structure, ensure that fishermen can switch to production, and provide support to increase the basic income of fishermen.

3. Conclusion

To sum up, in the current situation of fierce competition for international fishery resources and conflicts of interest in fishery development, we need to take better measures to improve the production, operation and management of marine fisheries by improving the marine fishery ecological environment and promoting the fishery industry, a series of marine management optimization measures, such as resource restoration, optimizing the structure of the fishery industry, transforming the growth model of fishery economy, improving the quality of aquatic products, and increasing government support, will promote the sustainable development of the marine fishery industry in the future.

References

- 1. Ding Z, Wang L, Chen L, *et al.* Current status and trend analysis of the development and utilization of marine resources. Science and Information Technology 2020; (9): 187+190.
- 2. Zheng M, Liu Y, Li M, *et al.* Current status and trends of the development and utilization of marine resources in China. Ocean Development and Management 2013; (12): 13-16.
- 3. Chen B. The problems and countermeasures of China's marine fishery resources and fishing production [dissertation]. Shandong: Ocean University of China; 2014.