

Research on the Legal Path of Cooperative Governance of the Bohai Sea Marine Environment

Weinan Hu

Dalian Ocean University, China

Abstract. Since the 21st century, with the rapid development of my country's marine economy, the continuous discharge of land-based pollutants, excessive and unreasonable offshore development activities, and human overfishing have caused the deterioration of water quality in the Bohai Sea and the imbalance of marine biological ecosystems. There is an urgent need for Coastal provinces cooperate to manage the Bohai Sea marine ecological environment. At present, the cooperative governance of the Bohai Sea's marine ecological environment is faced with problems such as the numerous policy plans from various places that are difficult to coordinate and unify, the lack of an authoritative comprehensive management and coordination mechanism, and the public's weak awareness of marine ecological environment protection. It is necessary to implement unified standards and programmatic documents as soon as possible, formulate special legislation for environmental governance in the Bohai Sea, and build a system of laws and regulations for cooperative environmental governance in the Bohai Sea; clarify the main responsibilities of government agencies at all levels, establish a comprehensive management agency for marine ecological protection in the Bohai Sea, and strengthen inter-regional cooperation among various government departments.

Keywords: Bohai Sea; Marine Ecological Environment; Cooperative Governance.

1. The Necessity of Cooperative Governance of the Bohai Sea Marine Ecological Environment

1.1. Continuous Discharge of Land-Based Pollutants and Continued Deterioration of Water Quality in the Bohai Sea

Land-source pollutants are the main factor causing the deterioration of water quality in the Bohai Sea.(Jianming Zheng, Tianzuo Liu,2019) Among the four major industrial bases, Liao Zhongnan Industrial Base and Beijing-Tianjin-Tang Industrial Base are located among them. As the economic center of the Bohai Sea region continues to rise, the construction of industrial projects in the four coastal provinces continues to increase. Industrial wastewater containing a large amount of toxic and harmful chemicals will flow into the Bohai Sea along the estuaries and sewage outlets, which will have a negative impact on the marine ecology of the Bohai Sea. The environment has caused huge pollution and impact; at the same time, the rapid economic development has rapidly accelerated the population concentration. According to surveys, the total population of the Bohai Sea region is about 250 million, accounting for 18% of the country's total population. The excessive concentration and continuous growth of the population have caused a large number of Domestic waste and production waste enter the ocean without proper treatment, which has brought great environmental pressure to the Bohai Sea marine ecology. Therefore, the Bohai Sea has to bear a large amount of land-based pollutants from the land every year. Due to the limited water flow in the Bohai Sea, the self-purification capacity of the Bohai Sea is weak. The continuous discharge of land-based pollutants will seriously exceed the self-purification capacity and pollution carrying capacity of the Bohai Sea. The load eventually led to the inability to accommodate land-based pollution, causing huge damage to the Bohai Sea marine ecological environment.(Jianzhi Zhang, Wenpeng Song, Zeyi Zhang, Yubao Zhou,2021)

1.2. Excessive and Unreasonable Offshore Development Activities have Increased the Load on the Bohai Sea Marine Ecosystem.

At the beginning of this century, vigorously developing the marine economy has become a new economic growth point in the Bohai Sea region. With the acceleration of industrialization and urbanization in the three coastal provinces and one city, a massive surge in population, and the increasing shortage of land resources, large-scale land reclamation has provided a large amount of new land resources and development space. However, research shows that the negative impact of reclamation on coastal environment and ecology is long-term and difficult to estimate. Sea reclamation will directly change the sediment types and sedimentary characteristics of offshore waters. For example, research on sedimentation in the northern part of Liaodong Bay shows that human activities have changed and shaped the modern sedimentary pattern in the eastern part of Liaodong Bay.(Hongwei Ma,2020) Since 2010, many oil spills have occurred in the Bohai Sea. Among them, the Penglai 19-3 oil spill in 2011 was the most typical, causing serious pollution in the sea area of 5,500 square kilometers.(Yanbin Tong, Zengan Deng, Xiaoyi Jiang,2020) Compared with land, marine oil spills have a wider scope of pollution, are more difficult to control, and require higher professionalism in emergency response. It will not only cause large-scale seawater pollution, but also cause serious damage to the marine ecosystem.

1.3. Human Overfishing of Bohai Sea Fishery Resources has Resulted in an Imbalance of Marine Biodiversity

According to the China Marine Ecological Environment Status Bulletin in the past five years, the number of phytoplankton, zooplankton, and macrobenthic species in Liaodong Bay has shown an overall upward trend, but the number of phytoplankton species in Laizhou Bay and Bohai Bay has declined. Obviously, the number of macrobenthos species in Bohai Bay has been declining year after year, indicating that the biodiversity of Laizhou Bay and Bohai Bay continues to decline. Overfishing is the main and direct cause of the threat to the biodiversity of the Bohai Sea. In recent years, there have been more and more fishing boats in the Bohai Sea, and fishing intensity has become stronger and stronger. Some lawless elements have even lost their bottom line in the face of profit, and have taken advantage of the "fishing to the fullest" fishing method. Fishing methods, such as installing modern fish navigation instruments such as clam blowing pumps, ultrasonic fish finders or radars on the boat. The direct result of overfishing is a sharp decline in biodiversity and the reduction of traditional dominant fish stocks, replaced by medium and low-level fish stocks.

2. Existing Issues in Cooperative Governance of the Bohai Sea Marine Ecological Environment

2.1. There are Many Policies and Plans from Various Places That are Difficult to Coordinate and Unify

The country and governments in the Bohai Sea region attach great importance to the problems of environmental pollution and biodiversity degradation in the Bohai Sea region. They have formulated a master plan for the prevention, control and management of the marine ecological environment in the Bohai Sea region, and issued a series of policies and regulations for the marine ecological environment in the Bohai Sea region, in order to promote the marine ecological environment in the Bohai Sea region. Environmental governance has played a positive role, but the relevant provisions in the current laws and regulations on cooperative governance of the marine ecological environment and biodiversity protection in the Bohai Sea region are relatively strong in principle, mostly macro-control, and have weak pertinence and operability. question.(Yamin Wang, Qiwan Zhong,2018) At present, the relevant departments in the Bohai Sea region have not yet found a clear basis for cooperative management of the Bohai Sea's marine ecological environment. In addition, the legal system is unclear and lacks operability, resulting in an overlapping of responsibilities and authorities among relevant departments.

2.2. Lack of Authoritative Comprehensive Management and Coordination Agency

There are many entities involved in the governance of the marine ecological environment in the Bohai Sea region, such as ocean, environmental protection, water conservancy, construction, fishery, transportation, finance and other departments.(Yufeng Cao, Xia Sun, Hao Yu, Chunmei Lin,2014) The local governments in the Bohai Sea region lack communication on the methods and policies for the management of the marine ecological environment in the Bohai Sea region and work independently. The local governments in the Bohai Sea region's marine ecological environment management have not yet formed a cooperative governance model, and cross-administrative cooperative governance has not yet been formed.(Mei Gai, Ce Zhang,2023) Even if there is cooperation, it will only be enforced through cooperation between departments. There is no authoritative comprehensive management coordination agency such as a coordination committee or governance executive agency similar to the cooperative governance form, and there are few joint regulations on marine ecological environment pollution control in the Bohai Sea region. This has led to serious decentralization of marine ecological environment management in the Bohai Sea region. In the face of cross-regional emergencies, local governments and departments have weak cooperative governance capabilities and lack specific emergency measures and plans.

2.3. Public Awareness of Marine Ecological Environment Protection is Weak

There are few ways for the public to participate in cooperative environmental governance and the public's knowledge of cooperative marine environmental governance is weak, resulting in a weak public awareness of marine environmental protection and a lack of enthusiasm in participating in cooperative environmental governance.(Kaiming Li, Yunjun Yu, Wenjing Zhao, Jing Yang,2022) Cooperative governance of the marine ecological environment is inseparable from the participation of the public. However, my country has not yet established a knowledge education system for marine ecological environment protection, which prevents the public from being exposed to systematic knowledge of cooperative governance of the marine ecological environment in the Bohai Sea region. There is insufficient professional knowledge in ecological and environmental cooperative governance, and awareness of marine environmental protection is relatively weak. According to research by relevant scholars, Chinese citizens have insufficient environmental education and a relative lack of understanding of ecology, protected areas, and regions. Their understanding of relevant policies, laws and regulations is also relatively weak.(Lixin Han, Da Lu,2022)

3. Path Selection for Cooperative Governance of the Bohai Sea Marine Ecological Environment

3.1. Promote Unified Standards and Programmatic Documents to Ensure Consistency in the Implementation of Government Policies at All Levels

In order to achieve cooperative governance of the marine ecological environment in the Bohai Sea region, it is necessary to formulate comprehensive laws and standards for cooperative marine environmental governance and strengthen supervision and evaluation of unified standards and programmatic documents, thereby promoting unified standards and programmatic documents to ensure that all parties in the Bohai Sea region Consistency in the implementation of government policies at all levels.(Pan Zhang, Guangshuai Zhang, Yonghai Yu, Quanming Wang, Feng Jiang, Bo Zhao,2022) It is necessary to formulate comprehensive regulations and standards for cooperative marine environmental governance, promote unified standards and programmatic documents, and provide clear guidance and implementation basis for various government departments in the Bohai Sea region. The central government can formulate relevant standards and programmatic documents. These standards and documents should include environmental protection goals, emission standards, monitoring methods, etc., to ensure that governments in the Bohai Sea region follow consistent principles and methods in the policy formulation process; governments in the Bohai Sea region Implementation rules that adapt to the characteristics of the Bohai Sea region can be formulated based

on specific circumstances and the unified standards and programmatic documents of the central government. The implementation rules must have consistent basis and operational guidelines to ensure the effective implementation and implementation of unified standards and programmatic documents.

3.2. Formulate Special Legislation for Environmental Governance in the Bohai Sea and Build a System of Laws and Regulations for Cooperative Environmental Governance in the Bohai Sea

On the one hand, special legislation on environmental management of the Bohai Sea has been formulated. Special legislation should be based on the characteristics and problems of the Bohai Sea region and stipulate the protection goals, principles, policies and measures for cooperative management of the Bohai marine ecological environment. The legislative process should be fully investigated and scientifically demonstrated, and opinions and suggestions should be solicited from all parties, including government departments, scientific research institutions, environmental organizations, fishermen and other stakeholders; the legal structure should include the basic principles, rights and responsibilities of cooperative governance of the Bohai Sea marine ecological environment distribution, coordination mechanism, environmental protection, pollution prevention and control, ecological restoration and punitive measures, etc., to ensure the scientificity, effectiveness and operability of cooperative governance of the Bohai Sea marine environment; the legislative content must be comprehensive, including ecological environment protection, water resources and other measures in the Bohai Sea region. Regulations on pollution control, terrestrial ecological restoration, biodiversity protection, marine resource development and utilization, environmental monitoring and assessment, etc. On the other hand, we should build a legal and regulatory system for cooperative governance.

3.3. Establish a Comprehensive Management Agency for Marine Ecological Protection in the Bohai Sea and Strengthen the Joint Law Enforcement Capabilities of Multiple Departments in the Bohai Sea

In terms of organizational form, the marine sector should be integrated under the leadership and guidance of the relevant departments of the State Council, and this should be achieved through the establishment of comprehensive management agencies such as the Bohai Rim Regional Cooperation Committee. Its main responsibility is to coordinate and coordinate environmental protection work in the region. Coordination, with multiple specialized groups under it to perform their respective duties, so that all parties can better cooperate and cooperate in the environmental protection work in the Bohai Sea region. In terms of executive agencies, the central government and each province and municipality have established a first-level comprehensive management agency, which is responsible for coordinating various affairs in the Bohai Rim region and has decision-making and coordination powers; municipalities and counties under the jurisdiction of the Central Government can establish corresponding comprehensive management departments responsible for strengthening The ability of multiple departments to jointly and jointly protect the marine ecological environment, regional cooperation, linkage between the upper and lower levels, and mutual supervision and mutual learning in response to regional common issues can improve the effectiveness of marine environmental protection law enforcement. In terms of supervision agencies, a supervision and inspection mechanism has been established to supervise various regions to establish "integration" awareness and "one game of chess" thinking, supervise major issues in marine pollution in the Bohai Rim region, and strengthen the implementation of marine ecological environment protection policies in the Bohai Sea region. Supervision of the entire process.

4. Conclusion

The Bohai Sea region is the core area of economic development in northern China. With the continuous development and utilization of the Bohai Sea marine resources in the future, the marine

environment The coordinated development of conservation and human production activities is increasingly important. In the future practice of continuous improvement of the Bohai Sea's marine ecological environment governance, the quality of the marine environment in the Bohai Sea region will be effectively improved, better ensuring the high-quality development of the Bohai Sea's marine economy and promoting the Chinese-style modernization process.

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