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Japan's Environmental Governance Experience and Its Implications

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Abstract: *Japan created domestic economic prosperity at the cost of environmental damage after World War II, and then achieved remarkable results in controlling environmental pollution in a short time. The article systematically analyzes the beneficial experience of Japan's environmental governance from the aspects of environmental governance laws, policies, cultural education, and energy conservation. Japan has played an active role in governance through measures such as strengthening legislation and policy innovation to provide comprehensive and standardized legal policy guarantees, popularizing environmental education to improve public environmental awareness, and implementing environmental pollution liability insurance to reduce economic losses caused by environmental problems, which has a certain reference value for China's environmental protection work.*

Keywords: *Japan, Public Hazards, Environmental Governance, Experience Inspiration*

1. Introduction

During World War II, while Japan's war of aggression brought severe disasters to Asian countries, there were also resource shortages and soaring prices in Japan, leading to the outbreak of economic crisis and social unrest throughout the country. In order to get rid of the economic difficulties, the Japanese government formulated the policy of "Inclined mode of production" to stimulate economic development. Its main contents are as follows: in the case of economic crisis, the Japanese government will focus its main human and material resources on coal mining, and use coal as industrial fuel to drive the development of other industries and promote Japan's economic revival. Although the rapid economic and industrial development made Japan recover its domestic economy after the war, it also caused a series of serious environmental pollution problems. Among the eight major public hazards in the world in the 20th century, Japan accounted for half of them. It can be seen that Japan's environmental problems had reached a very severe level at that time. However, in the short term, Japan has become a model of environmental governance, transforming the title of "advanced country in pollution" into "Advanced country in pollution prevention and control" in the period of rapid economic development.

2. Environmental crisis in the period of rapid economic development in Japan

During the period of rapid economic development from 1955 to 1973, Japan was one of the countries with environmental hazards in the world. There were four major public hazards that affected the world: Kumamoto Minamata Disease, Niigata Minamata disease, Yokkaichi asthma disease and cadmium poisoning disease. These public hazards incidents did great harm to the people, and the Japanese people were increasingly disgusted with the economic growth model at the cost of environmental pollution. Public hazards are different from natural disasters. They are caused by human factors, involving the pollution of air, water, soil, noise and other fields. The main public hazards in Japan were air pollution, water pollution, soil pollution and other pollution.

2.1 Air Pollution Crisis

Air pollution is one of the pollution that had a great impact on the environment in Japan. With the increase of urban population and industrial development after the war, the demand for fossil fuels, mainly coal, increased sharply, and the waste gas generated by combustion gradually shrouded the

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entire cities. In the process of sustained economic development, the demand for oil also began to increase. Japan began to buy a large amount of oil from abroad, resulting in oversupply in the domestic oil market. The oil price began to fall sharply. Cheap oil was widely used in various industries. Excessive and inefficient use eventually led to air pollution by waste gas dominated by sulfur dioxide. In Japan, a famous case of air pollution was the Tokyo photochemical smog incident on July 18, 1970. On that day, the concentration of pollutants in the air was about 10 times that of normal times. Later, it was found that the reason is that the polluted air produces a toxic gas after being irradiated by the sun, which is called "photochemical smog". At the same time, this day was also named Japan's “Photochemical Smog Day”.

2.2 Water Pollution Crisis

Three of the four major public hazards in Japan were related to water pollution, namely Kumamoto Minamata disease in 1953, cadmium poisoning disease in 1955 and Niigata Minamata disease in 1964. Urban waste water and industrial waste water were the main sources of water pollution. Since the economic development of Japan in the 1950s, waste water discharge increased sharply, and excessive waste water discharge greatly exceeded the limit of river self-cleaning. In addition, the oil spills caused by the accident of oil carrying ships near the Gulf and the unlimited discharge of waste oil were the sources of serious seawater pollution. In agricultural production, the use of a large number of chemical fertilizers and pesticides also further worsened the water quality. A typical case in the history of water pollution is that in 1958, the Honshu Paper Mill in Tokyo caused serious losses to fishermen who depended on rivers for aquaculture due to excessive discharge of sewage. This triggered group conflicts between fishermen and paper mill employees, and ultimately caused 35 serious injuries and 105 serious injuries. The tragic ending of minor injuries, this tragedy is also one of the main thrusts of Japan's environmental reforms.

2.3 Soil, Noise and other pollution crises

Soil pollution is caused by both water pollution and air pollution. According to the statistics of the Japanese government in 1970, a total of 37,400 hectares of arable land in Japan was polluted mainly by sewage, air pollution deposition and garbage pollution, accounting for about 0.8% of the total arable land in Japan. Sewage discharge and excessive use of chemical fertilizers and pesticides have polluted more and more arable land in Japan. Among the registered pesticides in Japan, the proportion of high-efficiency and low toxicity pesticides was less than 50% in 1960, and it only rose to 80% in 2000. With the rapid development of transportation and logistics industry, a large number of commercial vehicles drive on urban roads day and night, which has caused great disturbance to the public's daily life and rest, and noise pollution has also become one of the public hazards. A large amount of pollution has gradually worsened the public's living environment and caused huge economic losses. According to the statistics of the Japanese government, the losses caused by air and water pollution in 1970 have reached 1534.3 billion yen, about seven times that in 1960.

3. Countermeasures for Managing Environmental Crisis in Japan

3.1 Compulsory restraint on the occurrence of environmental pollution at the legal level

Japan set up a public hazard review committee in 1965, and passed the "Basic Law on Public Hazard Countermeasures" in 1967, which specifically classified public hazards into seven types of pollution: air pollution, water pollution, soil pollution, noise pollution, ground subsidence, vibration, and stench. In 1968, the Japanese government introduced the "Air Pollution Prevention and Control Law" on this basis. In the same year, in order to manage noise, the "Noise Control Law" was also introduced. In 1970, laws such as the "Law on the Prevention of Soil Pollution on Agricultural Land" and the "Law on the Prevention of Water Pollution" were introduced, and the previous relevant laws were continuously revised and improved. In 1971, adjustments were made to the provinces and departments related to pollution, and a new Department of Environment was established. Its main functions are pollution prevention, natural environmental protection and other environmental protection. In response to the destruction of the natural environment, the "Natural Environmental Protection Law" was introduced in 1972. In addition, there are some laws that are closely related to environmental protection, such as the "Public Health Damage Compensation Law" introduced in 1973 and the "Energy Use Rationalization Law" in 1979, which have greatly promoted Japan's environmental

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governance and pollution prevention. Utilization of Renewable Resources" introduced in 1991 and the "Basic Law on the Environment" introduced in 1993, the Japanese government proposed the "New Millennium Plan" to make the circular economy the focus of Japan's future social development. In 1998, Japan first proposed the strategic goal of "environmental statehood" in the "Environmental White Paper". In 2010, the "Basic Law on Promoting the Establishment of a Circular Society" was passed by the "Environmental Protection Congress". The introduction of this law has pushed the "circular economy" to a new level.

3.2 Actively guide the transformation of the concept of environmental governance at the policy level

After 1970, the environment in Japan began to improve, and the policy approach adopted by the government was one of the important reasons. The Japanese government's environmental governance process can be divided into three stages. In the first stage, during the period of Public Hazard Countermeasures in the 1960s, the "Basic Law on Public Hazard Countermeasures" was promulgated in 1967. In 1970, the Japanese Cabinet established the Public Hazard Countermeasures Headquarters and proposed 14 laws, including amendments to the "Basic Law on Public Hazard Countermeasures", to be discussed and passed by the National Congress. During this period, the mass litigation and protest of the people was one of the important driving forces for the formulation of environmental protection policies. At the same time, non-governmental environmental protection organizations also played a certain role in restricting corporate pollution. In the second stage, the concept of "preventing public hazards" changed to "protecting the environment" in the 1970s. In 1972, the "Natural Environment Protection Law" was introduced, and the environmental protection policy for some areas was extended to the national environmental protection policy. The Japanese government's environmental protection policy during this period was formulated from a longer-term perspective, and it got rid of the specific and narrow goal of "preventing public hazards" in the 1960s. The third stage was the response to climate warming in the 1980s. In the early 1980s, the international community began to focus on ozone problem. In 1992, Japan became one of the countries with a large number of carbon dioxide emissions, The Japanese government began to formulate laws and regulations related to the protection of ozone, such as the introduction of the "Motor Vehicle NOx Law". In the 1990s, due to economic pressure and early achievements in environmental protection, Japan relaxed its requirements for environmental protection for a period of time, causing a series of environmental problems to recur, but with the adjustment of the Japanese government's environmental policy, environmental governance was able to return to the right track.

3.3 Comprehensively promote the popularization of environmental education at the cultural and educational level

After the 1970s, the Japanese government and the public's awareness of environmental protection began to increase. Primary and secondary schools across the country began to add environmental education courses related to environmental protection, and universities also offered majors related to environmental protection. At the same time, the publicity activities of a large number of non-governmental environmental organizations also greatly improved the public's awareness of environmental protection. In 1972, the United Nations held a conference on the Human Environment. After the conference, Japan introduced the concept of "environmental education" proposed in the conference into school education. In 1977, the syllabus of primary and secondary schools was revised to further propose paying attention to students' environmental education. In 1986, the Environment Agency established the Japan Environmental Education Committee to accelerate the development of environmental education. In 1989, the syllabus of primary and secondary schools was revised again, focusing on raising students' awareness of the importance of resources and the environment. In 1991 and 1992, the Ministry of Education issued the "Guidance Materials for Environmental Education" for Middle and Primary Schools, pointing out the guidelines for environmental education, environmental preservation, the practice of environmental education guidance, and the significance and role of environmental education. Since 1995, the Japanese government began to organize ecological clubs for primary and middle school students nationwide, hoping to increase the youth's environmental protection enthusiasm through a series of environmental protection activities, and at the same time guide them to learn about different types of environmental knowledge from all over the world and enhance their overall quality. The "Environmental Education Law" introduced in 2003 divided the basic principles, basic concepts and individual responsibilities of environmental education, and continued to strengthen environmental education. From the perspective of the Japanese government's promotion of environmental education, environmental education has been given a higher priority. The government

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hopes to change people's environmental perceptions through education and reduce resistance to the implementation of government environmental policies.

3.4 Energy-saving awareness and other levels widely promote the improvement of the concept of environmental protection in the whole society

Due to Japan's small territory and lack of resources, its people have always had the habit of saving and cherishing. Since the oil crisis in 1973, Japan has promoted "energy conservation" to a new level, and the government began to promote policies to reduce oil dependence and enhance environmental awareness. In 1979, the Japanese government stipulated that it would save 5% of oil throughout the year. In 1980, this value was increased to 7%, and after the Iran-Iraq War, it was increased to 9%, and assigned the task of saving oil to various oil-using businesses. For businesses that were completed, the government gave certain tax subsidies, and for businesses that could be completed, the government imposed corresponding fines. In the field of science and technology development, in the 1970s, the Japanese government vigorously developed the less polluting electronic information industry and technology intensive industry, and introduced the "subsidy system for important technology research and development" in 1968. In the late 1970s, the "Very Large Scale Integrated Circuit Technology Research Group" organized by the Japanese government was successful and laid the foundation for the "Industry-Academic-Government" model. The status of enterprises, and focuses on strengthening the support of universities and the government to enterprises. The "industry-academic-government" model officially started in the 1980s, and the report "Trade and Industry Policies in the 1980s" was released to strengthen cooperation between enterprises and other organizations in energy conservation and emission reduction research. Japan introduced the world's most stringent emission and noise regulations to the automotive industry, major automobile companies began to be forced to produce models with low emission and low fuel consumption. Therefore, Japanese cars began to become synonymous with economy, environmental protection and high quality.

4. Inspiration from Japan's Environmental Governance

4.1 Strengthening legislation and policy innovation will help provide comprehensive and standardized legal and policy guarantees

Firstly, from the perspective of Japan's environmental governance process, the complete legal system and the revision and update of laws are one of the primary guarantees of environmental governance. Secondly, Japan's various environmental protection laws are interrelated and complementary to each other, and there are more adequate plans when formulating environmental protection laws. Thirdly, the Japanese government has gradually provided legal guarantees for environmental governance. For example, there have been no legal provisions on climate change adaptation in the early days, but after the government and Congress paid attention to and insisted on the issue of climate “adaptation”, the "Climate Change Adaptation Law" was introduced in 2018 and implemented on December 1 of the same year.

The most representative policy in environmental governance is the "Environmental Accounting System”, which mainly focuses on the self-disclosure of enterprises. At the same time, there is also compulsory supervision by third-party institutions. The government formulated corresponding laws and regulations to impose sanctions on companies that do not want to disclose. In addition to”environmental accounting", Japan's environmental policies have different goals in different periods. From the initial prevention of public hazards to the protection of the environment to global environmental governance, Japan's environmental protection policies have clear goals and directions when they are formulated. At the same time, the wrong content will be revised in time during the implementation process, and it is good at learning from the experience of environmental governance in advanced countries in the world, and adapting and using them according to the actual situation of the country.

4.2 Universal Environmental Education helps to improve public environmental awareness

In terms of environmental protection education in schools, the level of environmental awareness and environmental protection practices of Japanese students ranks among the forefront in the world. Japan has many parts worth learning about environmental education for primary and middle school students. As early as 1968, the Japanese government took the “pollution issue” as an opportunity to

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revise the teaching curricula of primary and secondary schools to include environmental protection education. In the "Environmental Education Law" passed in 2003, environmental education is summarized as environmental education, environmental education and environmental protection. The Ministry of Education and Culture has also compiled “Teacher Environmental Guidance Materials” for primary and middle schools to unify the guiding ideology and improve the quality of environmental education. In terms of off-campus environmental protection education, the whole society has given support to environmental education. Supermarkets, restaurants, garbage collection stations, etc. will carry out regular visits to enable students to understand the steps of garbage disposal and the importance of environmental protection, at the same time environmental protection is also part of family education. Many cities set up museums and memorial halls dedicated to the environmental protection processes. For example, the “Minamata Museum” built in Kumamoto Prefecture describes in detail the series of causes and combat processes of Minamata disease, and raises public environmental awareness and vigilance.

4.3 The promotion of environmental pollution liability insurance helps reduce economic losses caused by environmental problems

Since 1992, environmental pollution liability insurance began to rise, and in the course of more than 20 years of development, it has formed stable and mature products as it adapts to the market. Currently, there are three main characteristics of environmental pollution liability insurance in Japan. First, extend the "basis of claim for damages", change the unreasonable design of the "basis of claim for damages" proposed by the insurance company to prevent risks, and solve the problems by signing the "special agreement on the extension of claim period"; Secondly, environmental pollution liability insurance has gradually changed to more specific and specialized. The environmental pollution liability insurance system corresponds to specific pollution incidents, and tends to separate it from liability insurance types and develop it into professional special insurance in a certain field； Finally, the reasons for exemption from liability insurance for environmental pollution compensation are reasonably planned, there are now 13 types of specific reasons for exemption from liability, to maximize the balance between the interests of enterprises and insurance companies, and enhance the enthusiasm of enterprises for insurance. In the process of implementing Japan's environmental pollution liability insurance, there are still problems such as lack of relevant legal guarantees, imperfect environmental pollution risk assessment mechanisms, and insufficient guiding policies, but it has an important enlightening effect on the large-scale development of environmental pollution liability insurance in China.

5. Conclusion

When responding to environmental crises, Japan first enforced restrictions on the occurrence of environmental pollution at the legal level, and introduced a series of effective legal systems; Secondly, actively guided the transformation of environmental governance concepts at the policy level, and learn from advanced foreign environmental governance concepts; Thirdly, comprehensively promoted the popularization of basic environmental education at the cultural and educational level, and offer environmental education courses in various schools across the country; Finally, widely promote the improvement of the concept of environmental protection in the whole society at the level of energy conservation awareness and other levels, and guide the public to actively resist environmental pollution. President Xi Jinping emphasizes: “The environment is people's livelihood, green mountains are the beauty, and blue sky is happiness.” Strengthening environmental protection and building a beautiful China are still our goals. The 19th National Congress of the Communist Party regards building a beautiful China as an important goal for the construction of a modern socialist country. We should actively learn from the beneficial experience of foreign environmental governance to build a beautiful China with green development, circular development and low-carbon development.

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