

Realization of Preventive Function of Environmental Law in the Governance of Risky Society: Based on the Article 39 of the "Environmental Protection Law of the People's Republic of China"

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Abstract. The protection of public health is one of the legislative purposes of China's environmental legal system. The "Environmental Protection Law" puts forward the legal goal of "establishing and improving the environment and health monitoring, investigation and risk assessment system", and incorporates the environmental health risk assessment system into the environment Protect the scope of basic systems, but China's existing environmental monitoring, environmental impact assessment, and environmental standards cannot achieve the functions of environmental and health risk prevention and regulation. It is necessary to build an environmental health risk assessment system with Chinese characteristics from both physical and procedural aspects.

1 Introduction

Since China's reform and opening up, environmental and health risks have continued to emerge as the economy has developed rapidly, seriously threatening the health of the public. In the context of risk society, the mechanism of environmental risk on human health is complex and uncertain. Through the assessment of environmental and health risks, regulatory measures are taken to meet actual needs. Article 39 of the Environmental Protection Law stipulates that the state shall establish and improve environmental and health monitoring, investigation and risk assessment systems. The protection of public health is one of the legislative purposes of China's environmental legal system, but it cannot achieve the functions of prevention and regulation of environmental and health risks. Environmental problems have caused the public to face health risks, and how to avoid environmental pollution from causing harm to the human body has become an important issue facing Chinese society.

2 The shift of environmental law in a risk society: from consequence control to risk control

Environmental law is a new type of law that emerged to govern environmental issues. One of its basic legislative goals is to maintain human health by curbing environmental degradation. With the in-depth development of practical experience and theoretical

discussion, two ways of responding to environmental pollution threats to protect human health have emerged: one is post-event relief, that is, consequence control, which refers to when environmental problems have caused harm, and then through compensation for damages. Second, pre-prevention, that is, risk control, mainly through laws to regulate environmental pollution, so as to prevent harmful substances from entering the human body and damaging human functions. Nowadays, China's environmental issues require environmental law to make a choice, whether the consequence control stage of post-relief needs to be shifted to the risk control stage of pre-prevention.^[1]

2.1 Disadvantages of the environmental governance model of consequence control appear

In the past, China's environmental governance mainly adopted the after-effect control model of relief, but it had little effect and did not completely curb the occurrence of environmental hazards. It took China 40 years to complete the process of industrialization that the West has completed in a hundred years. The problem also broke out in a short period of time. According to incomplete statistics, only from 2005 to 2014, the Ministry of Environmental Protection handled 1,078 environmental incidents (83 extremely important incidents). Among them, environmental pollution caused the most environmental incidents to damage public health. Accounted for 46.4%. Since the implementation of the Environmental Protection Law in 2015, with the

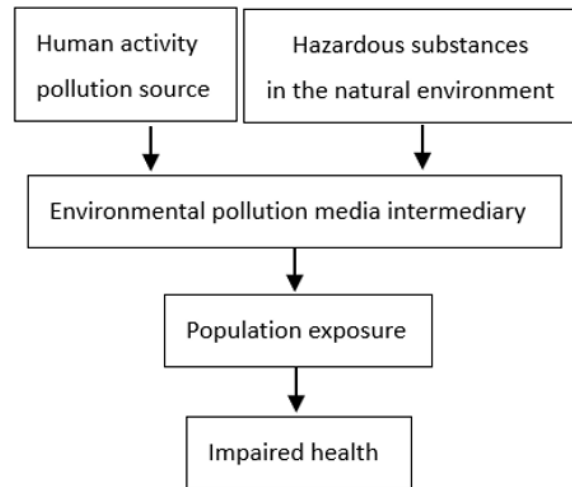
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in-depth development of relevant environmental law theories and the accumulation of practical experience in public interest litigation, environmental infringement and pollution incidents and related judicial cases have increased day by day. Therefore, the disadvantages of the environmental governance model of consequence control have emerged. Environmental problems have caused the public to face health risks. How to avoid environmental pollution causing harm to the human body has become an important issue facing Chinese society. This is not only related to public health, but also related to the country's eternal life.

2.2 Threats to environmental health risks caused by environmental pollution

The damage to public health caused by environmental pollution has become one of the people's livelihood issues that are most concerned by the people. According to statistics, among environmental incidents of level III and above from the 11th Five-Year Plan to the present, a quarter of them have health damage risks. The environmental risks and challenges faced by the public are increasing day by day. Environmental governance is a long-term and systematic dynamic process that cannot be completely resolved in the short term. The only way to improve the environmental and health risk assessment and regulation is to strengthen the system's protection of the public.^[2] Enhancing the environment and health work is an important part of the construction of ecological civilization, and it is an inevitable choice for my country's environmental protection to realize the strategic transformation of environmental management. Public health is at a disadvantage when it suffers from environmental pollution. The damaged body functions have a large range and will have a long-term negative impact on subsequent life. Due to the lag of the human body's response time to environmental pollution, the damage to the human body by environmental pollution is concealed according to the basic process of environmental damage to human health depicted in **Table 1**. Most of the body can no longer show negative symptoms. Redeem. In recent years, physical diseases caused by environmental pollution directly or indirectly in China have shown an overall upward trend, and some areas of China are facing the possibility of public health risks caused by environmental pollution.

Table 1. The basic process of environmental damage to human health.



2.3 Environmental and health risks have complex characteristics

Environmental and health risks mainly have multiple characteristics such as the interaction, the universality of existence, the uncertainty of judging the causal relationship, and the irreversibility of some harmful consequences. The impact mechanism of environmental pollution on human health is relatively complex, and the human body has a long reaction cycle to environmental degradation, presenting low-concentration, long-term chronic harm. First, if environmental pollutants (such as toxic and harmful industrial pollutants) enter the natural environment in a large amount in a short period of time, the exposed environment without protective measures will form a high-density polluted environment in a short period of time, leading to large-scale poisoning of the population. Secondly, low-dose environmental pollutants will accumulate for a long time and will only show up on the human body after reaching a certain level. Environmental pollutants exist in the environment in a low-density form, causing chronic effects on human health. Once the rate of absorption of pollutants by the human body exceeds the rate of cleaning up pollutants in the human body, environmental pollutants will begin to accumulate in the human body, leading to chronic Accumulation, when the qualitative change appears on the physical symptoms, it may cause irreversible damage, thereby threatening the health and life of the human body.

3 The constraints of environmental and health risk regulation: lack of an adaptive mechanism system

The existing environmental laws and regulations cannot meet the actual needs of environmental governance, especially the environmental and ecological governance model that simply aims at "pollution control" based on the relief concept of "crisis response" as the core after

the event, which breeds a large number of "ignorant science" "The irrational environmental decision-making cannot achieve the goal of effective risk regulation."

3.1 Weak governance of the risk regulation system for "crisis response"

The environmental and health risk assessment system cannot be fully integrated into part of the environmental laws.^[3] For example, the "Wildlife Protection Law" was formulated under the background of the divisional law division model. From the perspective of the concept of ecological environmental protection legislation, the legislative purpose of the "Wildlife Protection Law" is mainly to protect biodiversity and maintain ecological balance. . However, most of the large-scale infectious diseases that have frequently occurred in China in recent years are zoonotic diseases. Scientific research has also shown that the source of the virus comes from wild animals. For example, the SARS virus that broke out in 2003 was confirmed to originate from wild bats, which confirms the protection. Wild animals and their habitats are of great significance to the prevention of environmental and health risks, and it also reflects the lack of establishment and application of environmental and health risk assessment systems in the separate environmental law. Although the source of the worldwide outbreak of new crown pneumonia in 2020 has not been determined, it is clear that the risk of disease from wild animals will always threaten human life and health. How to avoid this risk requires a clear environmental law." The legislative purpose of "protecting public health" is to strengthen the connection between the separate law and the environmental and health risk assessment system.

3.2 Insufficient compatibility between risk management and public health

The control factors in the environmental and health risk assessment are unitary, focusing on the control of pollutant discharge at the end of production, and the lack of a systematic risk prevention and control mechanism results in a mismatch between the environment and health. Since the environment is a complex system, environmental pollutants or substances related to the environment that cause harm to the human body exist in the environment. The environmental and health risk assessment should be placed at the forefront of the production cycle. The total amount is controlled. Secondly, the environmental protection department's enforcement is insufficient, and it is unable to regulate environmental risks in a timely manner. Furthermore, the environmental and health management mechanisms are deviated, unable to adapt to regulatory requirements, and regulatory pressures are reversed. The realization of risk regulation requires the implementation of the grassroots environmental protection departments and faces the greatest environmental administrative pressure. However, the shortage of talent supply, policy support, and technical assistance cannot cope with the greater

environmental administrative pressure. Finally, there is a lack of sophisticated environmental and health risk assessment and management measures. There is only a description of the macro environment and health risk assessment system, but there is a lack of specific operating guidelines and technical specifications to choose from, there is overlap between various environmental management systems, and there is a lack of convergence, and there is no synergy between departmental laws.^[4] What about the existing system? To be implemented, there are still institutional obstacles.

3.3 Research on environmental standards for environmental and health risk regulation is lagging behind

The environmental and health risk assessment system requires multiple fields, and scientific prevention and control standards are used as a reference. As of 2016, China has formulated a total of 1969 environmental protection standards, and 249 invalid standards have been abolished. Although there are many standards, they are relatively scattered. There is no specific value of the environmental standard system, and there is no environmental law legislative purpose to protect public health. Penetrating into the environmental standard system, this makes China's existing environmental standards lack the basic function of controlling environmental and health risks. Moreover, the content of the environmental standard system is not perfect, and indicators related to population health have not been incorporated into the environmental standard system in a timely manner. Therefore, on the whole, the foundation of China's environmental standard formulation is relatively weak, the basic data does not cover a wide range, the delineation of environmental baselines and public health safety indicators is not in place, and it is impossible to make a complete assessment of exposures that may harm public health. And react quickly.^[5]

3.4 Lack of specialized institutions for environmental and health risk regulation

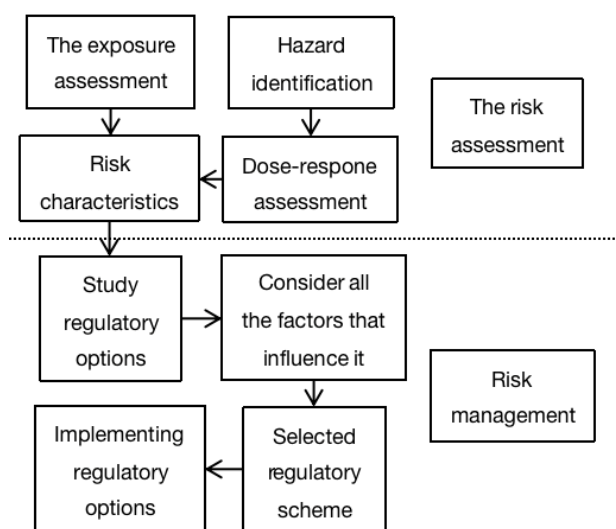
China lacks a full-time department for health and risk management in terms of institutional setting. The existing risk regulatory authority is scattered among various administrative departments and has overlapping functions. It is prone to mutual prevarication, which restricts the systematic advancement of environmental and health work, and the society of local governments The environmental and health work included in the economic development plan is mostly mere formality, unable to achieve the effectiveness of risk regulation; secondly, the supply of talents for environmental and health risk assessment and management in scientific research is insufficient, and there is a lack of professional environmental and health risk assessment teams. Long-term and systematic risk research is insufficient, environmental and health survey methods are not standardized enough, and scientific research results cannot be well accepted by management

decision-making; finally, in terms of management methods and methods, environmental and health management work cannot be completely compatible with each other. Strengthening environmental and health work is to respond to people's concerns about environmental health, and it is also a manifestation of the government's ability to govern. China's environmental monitoring focuses on the monitoring of emergencies and the collection of environmental pollutant concentration data. It lacks environmental and health risk prevention and control, so it cannot provide effective support for environmental and health risk assessment and build an environmental and health risk assessment system. The core environmental sanitation risk prevention and control system has become a top priority.

4 Realization of health risk prevention function: perfecting the regulatory path of environmental and health risk assessment

In short, according to the relationship between risk assessment and risk management in **Table 2** health risk regulation requires a “two-pronged approach” of law and technology to form a joint effort, so it needs to be examined from multiple perspectives: whether the collection and investigation of basic information, environmental dynamic monitoring, and data risk assessment encompassed by technology can build a reasonable environmental standard system. Whether the law can realize a legal system that protects public health with the environment and health risk assessment system as the main axis.

Table 2. Diagram of the relationship between risk assessment and risk management.



4.1 Innovate the legal system for environmental health risk regulation and implement risk prevention principles

A sound environmental and health legal system is the compass for risk assessment and management. China's newly revised "Environmental Protection Law" establishes the principle of giving priority to public health protection and preventing risks from occurring, and specifically clarifies the environmental and health risk regulation system. However, in the field of actual operation, detailed management specifications and procedural requirements are required, and the "Environmental Health Risk Assessment Management Measures" will be issued as soon as possible, and the specific process of risk assessment, the release of assessment information, and the specific handling of risk investigations are all in the form of law. Be clear. Expand the pilot work of environmental health risk assessment, and continuously improve the assessment technology and administrative management capabilities in the process of advancing the pilot. Whether it is an environmental protection supervision and management system with central and local-led administrative area management as the core, or an administrative supervision and management system with people's governments at all levels responsible for the environmental quality in their own administrative areas, relevant departments cooperate and coordinate with each other in their work. Able to appropriately prevent and control environmental health risks. When necessary, China can formulate the "Basic Law on Environmental Health" to make detailed regulations on the evaluation, regulation, implementation, and supervision of environmental and health work.

4.2 Establish a coordination mechanism for environmental protection and public health, and integrate risk management systems

The Chinese government has gradually put environmental and health issues in the prominent position of national governance, but environmental health issues require coordination among multiple departments, and the regulatory effect of a single institution can hardly resolve the comprehensiveness, intersectionality, and complexity of environmental risks. Comprehensively understand the environmental pollution that affects public health, scientifically evaluate and refer to the expected effects of various environmental and health risk regulatory measures, optimize environmental decision-making to respond to public concerns, and improve government functions. Environmental protection departments should strengthen communication with public health departments, establish a high-level review and coordination mechanism, unify management of environmental and health work, and jointly carry out environmental and public health-related monitoring, investigation, and evaluation. The internal agencies of the environmental department should also strengthen cooperation and communication. Under the unified leadership of the national environmental protection department, properly implement the national environmental and health information reporting mechanism, and convene a leading group of

environmental and health major decision-making and expert consultation meetings in a timely manner to strengthen communication with the public. The environmental department should strengthen the cooperation in environmental protection and supervision of occupational disease prevention and health in accordance with the spirit of cooperation between the Department of Occupational Health of the State Administration of Work Safety and the Department of Science and Standards of the Ministry of Environmental Protection on advancing environmental and health work.

4.3 Delineate environmental health risk assessment standards and baselines, and build a scientific basis for the mechanism

Environmental and health risk assessment is the prerequisite and basis for risk regulation. Improve the health and environmental risk assessment framework to ensure that the results of risk assessment are scientific and credible. Environmental standards and baselines are not only important data for risk assessment, but also basic management tools for evaluating governance effects in the process of risk regulation. First, build an environmental baseline centered on public health. The environmental baseline refers to the parameters of the basic chemical composition of environmental elements in a specific area within a fixed period of time without direct industrial pollution. The environmental baseline is mainly affected by man-made factors and the circulation of natural environmental materials. It is mainly used to evaluate the environmental quality and the distribution of environmental pollutants. Many countries and regions in the world regard the human health environmental baseline as one of the core contents of the environmental baseline. The formulation of environmental benchmarks should take into account public health and technical and economic factors. The current environmental standards and limits are mainly based on Western developed countries, but with the continuous improvement of China's economic strength and scientific research level, it has the ability to delineate environmental standards and limits in line with China's national conditions. Second, delineate environmental standards with environmental quality as the core, and strengthen the construction of local environmental standards. The current environmental standard system is constrained by the needs of economic development, resulting in the formulation and implementation of environmental standards that sometimes abandon the benefits of the ecological environment and human health.

4.4 Clarify the scientific decision-making mechanism of environmental health risk assessment to deal with the uncertainties of causality

Set up a special environmental and health risk assessment agency. Environmental and health risk assessment is a systematic and multi-disciplinary long-term high-tech research that requires a special

assessment agency to conduct daily assessment and management. China should gather experts and scholars in the field of environment and health across the country to form a strong talent team. Establish an environmental and health risk assessment agency. The competent environmental protection department shall be guided by solving outstanding environmental problems that endanger public health, combine environmental impact assessment with daily environmental management services, comprehensively evaluate and select key regions, river basins, industries, and key pollutants, and follow relevant laws, regulations, policies and policies. Technical regulations and implement various risk prevention and control measures. First, incorporate environmental health into regular environmental monitoring, include key areas and industries into the scope of environmental health risk monitoring, implement continuous dynamic monitoring, and carry out environmental and health surveys at the grassroots level. Second, adopt the environmental inventory system and pollutant discharge permit system to classify and manage environmental health risks. According to the degree of harm and impact on public health and the ecological environment, the Ministry of Environmental Protection shall publish a list of toxic and hazardous pollutants in accordance with the law to implement differentiated management. Finally, strengthen environmental health risk early warning and emergency response capabilities. For hazardous areas (industrial-intensive areas), environmental protection agencies should formulate environmental emergency plans in accordance with the Environmental Impact Assessment Law. Timely and accurately conduct environmental pollution health impact assessments for high-risk companies. The construction of risk management capabilities also requires the support of environmental information sharing capabilities, and the ability to circulate environmental and health assessment and regulatory information among the public in an orderly manner. It is necessary to continue to carry out basic data surveys of environmental and health work, to classify and organize data, and to improve the environmental and health information platform, so as to improve the efficiency of environmental health work.

5 Conclusions

At the present stage, China has a biased understanding of the environmental and health risk assessment system at both the theoretical research and practical levels, and it has not squarely addressed the functional transformation of the ex-post relief of environmental damage to the pre-prevention of health risks in the environmental legal system. The health legal system, the environmental and health risk assessment framework are not clear, the environmental and health risk management capabilities need to be improved, there is a lack of specialized environmental and health risk assessment institutions, and the lack of supporting risk assessment technical standard system construction. It is necessary to examine the operational logic and important functions of China's

environmental and health risk assessment system from the perspectives of practice and theory, learn from the practical experience of foreign environmental and health risk assessment and management, and improve China's environment on the basis of objective and scientific protection of the assessment process. And health legal system, establish a national environmental health risk assessment expert committee as soon as possible, improve China's environmental and health risk assessment framework, strengthen the construction of environmental and health management capabilities, improve the environmental and health risk assessment technology system, and promote China's environmental and health risk assessment. The system develops in depth, giving play to the system mission of safeguarding public health.

Acknowledgments

We would like to thank the support of school of Humanities and Law of Northeast Forestry University in China.

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