Environmental legislation of criminal responsibility of international comparison and reference ——Based on the Perspective of Law and Economic

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Abstract. With the growing importance of environmental criminal responsibility system, other countries connected environmental law with system design. The international community attaches importance to the legislation of environmental criminal responsibility, and pays more attention to new criminal sanctions other than traditional criminal sanctions, for each country has a certain guidance and reference significance.

1. The typical state of environmental criminal law system

1.1. The German

German environmental legislation has a systematic and scientific system, refered to as "the world's most severe punish environmental crime and the punishment scope of one of the most widely". Table 1 reflects the German environmental penal law system of main development [1]:

| time     | The development of environmental criminal law system               | meaning                                      |
|----------|-------------------------------------------------------------------|----------------------------------------------|
| In 1871  | About environmental crime in the criminal law the provisions of the first appeared in Prussia empire | The first environmental criminal responsibility system |
| In 1980  | Passed 18 modification method of criminal law (also known as "the environmental laws), adding "environmental damage "discussed" penal code" | Make the environmental criminal law become more system and science |
| In 1990  | "Environmental criminal law basic reform"                          | To improve the prosecution environment make serious defects |
| In 1994  | Amend the criminal code, and further perfect the relevant provisions of the environmental crime content | To further strengthen the effective criminal law protection to the environment |
| In 1999  | In the latest "penal code" crime has carried on the special provisions on the environmental crime | The environmental crime and criminal liability has carried on the comprehensive system of rules |
| In 2002  | Added to modify of environmental criminal law, "the crime of polluted water", "the crime of atmospheric | Environmental criminal system to get new development, its content |
"pollution", "the crime of illegally disposed of the rubbish", etc. The specific charges by many countries.

Source: XiaoJianMing OuYangGuangMing. Monograph on comparative environmental law [M]. Beijing: China environmental science press, 2004 (1).

The above-mentioned can be concluded that the German environmental criminal responsibility system started earlier, also in the leading position in contemporary international society. At the same time, according to the time line and related laws and regulations, Germany updated or increased the relevant environmental legislation every few years, in order to ensure the comprehensiveness of environmental liability legislation and punish environmental crimes. Germany attaches great importance to use criminal law which means that punishment is bad for the environment crime behavior, the "penal code" discussed in the regulation of environmental criminal law mode is known as the typical "German model". This is mainly based on the penalty and freedom penalty penalty measures.

1.2. Japan

As the world's third largest economy, while Japan's economy is developing rapidly, it is at the expense of the ecological environment. So far, there are three main parts in the environmental criminal law system:

| composition                        | The main content                                                                 | meaning                                                                 |
|------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------------------------|
| The correlative stipulation in the | Direct regulation: the crime of polluted water purification, pollution of waterways and pollution of water purification cause person casualties, otherwise the "provisions on public health" [2]; Indirect regulation: the harm of environmental pollution caused by the human body health of malfeasance crime [3]; | The specific standards of environmental crime shall be added |
| criminal code                       |                                                                                  |                                                                        |
| The public nuisance crimes act      | Also referred to as "$special criminal law", including four aspects of content: Punishment dangerous crimes; A double punishment, that is, increase the responsibility of the legal person or the legal representative; To protect human health against public nuisance crime harm as the applicable scope [4]; Adopt causality presumption of environmental crime; | First proposed the environment criminal law legislation pattern, line double punishment rules for corporate crimes, the core member of environmental law system in Japan |
| Environmental accessory criminal law | Set up many of the constitutive requirements of environmental crime, and specifies the terms of the environmental criminal penalties directly, clear in related laws corresponding punishment of the crime | As a special law, constitute an important part of the environment criminal law system |

As shown in table 2, Japan's environmental legislation of criminal responsibility system is mainly composed of two major part is separate law and, especially environmental criminal law. Many direct or indirect provisions specify the consequences of environmental violations, and constantly update the terms, intensify the crackdown and establish many constitutive requirements and corresponding penalties for environmental crimes. In 1970, Japanese promulgation and implementation of the public
nuisance crimes act is the world's only environmental criminal special law, the law in the form of special criminal law to punish environmental crime details of contents shall be clearly defined and created into the environment crime separate law legislation style. Only seven of the law forms the basis for the environment criminal sanctions model, for the development of Japanese environmental criminal responsibility system has great significance. It seems that environmental crime of criminal responsibility is implemented mainly fine and imprisonment penalty measures, relative with the characteristic of "the Japanese model" is the act of public nuisance crimes in the double punishment, namely the punishing legal entity itself, and punished his legal representative, make the responsibility in the environmental criminal law liability have more realistic significance.

1.3. The U.S.
The origin and development of environmental criminal law, like most countries, is in the increasingly serious environmental pollution and resource destruction of situation awareness. It is concluded that the causes of serious environmental pollution, in the economic freedom of capitalism to the monopoly in the process of economic development, due to the economic stagnation and social management is out of control as a result of management confusion and social crisis. Such as Los Angeles photochemical pollution incidents, it is in this turbulent phase of capitalist production profits caused by the greed of chasing the ecological environment crisis [5]. The government strengthens the intervention and management for environmental pollution and damage through environmental legislation.

The environmental criminal responsibility system for the provisions of the punishment is relatively heavy, in the act of solid waste, for example, its rules, those who violate the act of solid waste and make the others in the death or injury risk, can be in 250000 yuan the following penalties or 15 years in prison, under or both concurrently. And in the United States and in 1970 established the environmental protection agency (EPA) to implement the integrated function of environmental protection [6]. Before 1980, the EPA's main function is limited in the civil enforcement. With the development of environmental criminal liability system and EPA criminal execution ability is gradually increased, the EPA in 1984 to criminal investigation and enforcement environment.

Like Britain, France, the United States environmental criminal law legislation mode of blurred the line between environmental law and criminal law department, directly across a large number of environmental protection laws and regulations of the provisions of the criminal provisions. The environmental criminal law form belongs to the category of economic criminal law in the United States. Tradition of common law countries, the United States has so far not a complete and unified the federal criminal code, for environmental pollution legislation can be divided into federal and state laws, local regulations, three parts. Due to the shortcomings of the criterions for the conviction in the congress enacted law, its all kinds of criminal law are almost all federal courts and state in the United States court of appeals for the actual case to get detailed explanation and perfecting.

Environmental criminal legislation in the United States, as well as Japan joined the double punishment principle. But relatively with innovation characteristics mainly break through the solid pollution in environmental crime committed (crime refers to the actual crime happened results of theoretical framework, will vest in the act of criminal law theory, and extends the concept of strict liability makes the burden of proof produced positive changes accordingly.

1.4. Russia
Russia's natural gas and oil mining industries have seriously polluted air and water resources, which becoming the largest polluting industry in the country. Due to the low requirements of environmental standards in the field of exploitation and the existence of loopholes in law enforcement, the leakage of pipelines and oil tankers has been reported to have caused serious health problems in many of Russia's oil-contaminated areas. Environmentalists in Russia have analyzed the fact that more than 20,000 small refineries have been built in the region. But at the same time these small refineries produce far less oil than formal refineries, and that they dump production waste without regard to environmental consequences. Inescapable of bringing the river Flow and underground water system pollution, Russia's
environmental conditions have been gradually improved under pressure from the international community, represented by the European Union.

Russia has its own customary title for the concept of "environmental law" and continues to apply the concept of "ecological law". The Russian environmental protection law has a long history of development. The protection of nature and the rational use of resources have always played an important role in the legislation. The Russian Code of Law (1016) was the earliest in the Russian legal documents to regulate the protection of nature 1917 years ago. It imposed fines for the destruction of wild beehives and the theft of beavers, and punished the theft of trees. In the early days of the Soviet regime, Russia's environmental protection law has entered a stage of comprehensive development and high speed. On 27 October 1960, the Russian Federation promulgated the Law on the Protection of Nature of the Socialist Republic of the Russian Soviet Federation, the first systematic and specific law in the field of environmental and resource protection since the establishment of the Russian Federation. Since the disintegration of the Soviet Union in the early 1990s, Russia's status as an independent sovereign state has been established. The Russian Federation has greatly accelerated the development and legislation of its environmental protection law. In the short term, the Russian Government has rapidly enacted a large number of comprehensive laws in the field of protection of resources and the environment, the most important representative of which is the Russian Law promulgated in 1991: Law on the Protection of Nature of the Soviet Union Socialist Republic of Ross.

The principles of environmental legislation in Russia mainly include the principle of public participation, the principle of sustainable development, and the principle of environmental impact assessment first (planning, planning for production and living activities should be put into the first consideration). The principle of international cooperation in the field of environmental protection is based on the principle of ecological interests, the prohibition of irreversible effects, and the principle of international cooperation in the field of environmental protection. In the course of judicial practice, Russia's law of protection takes an enumeration of the basic principles, which makes it easier for citizens to grasp the main meaning when reading environmental law. The principle can be fully applied, and the principle can be applied intuitively when the rule is not clearly defined, rather than be used as a theoretical study of scholars. The emphasis is on dealing with the rational use of ecological protection and natural resources, and abandoning the old tradition of preventing pollution as the center.

1.5. Austria

The work of environmental legislation in Austria has gone through a process of development. Austria's early environmental legislation, like other countries, adopted a "defensive" strategy. The following legislative principles and policy elements are gradually reflected in the relevant laws and regulations, as the construction of environmental laws and regulations continues to deepen, and the following legislative principles and policy elements are gradually reflected in the relevant laws and regulations. And constitute the basic framework of national environmental policy.

Precautionary principle: that is to prevent trouble in the first place, to avoid or stop the phenomenon of environmental deterioration as early as possible, and to minimize the impact of environmental damage as far as possible. This principle has been embodied in many environmental laws and regulations in Austria.

The principle of the perpetrator: that is the perpetrator of environmental harm shall be held responsible. This principle not only relates to the environmental harm caused by the economic behavior of the enterprise, but also includes the responsibility of the enterprise to protect the ecology. But at present the latter point has not been fully reflected in the existing environmental laws and regulations. What are the adverse effects of environmental hazards on health and ecology, and what are the responsibilities of enterprises? There is also a clear definition of this in law. The Environmental liability Act, which is under discussion, will clarify the causal relationship between the adverse effects of environmental damage on health and ecology from a legal point of view, and will adopt compulsory environmental liability insurance. As the content of this principle deepens, the direction of future efforts is that the perpetrator must bear all the consequences of the environmental harm caused by it.
Public participation: the establishment of public environmental information system, timely provision of relevant information to the public, to attract the public to participate in the decision-making process of the relevant authorities.

Full producer responsibility: the manufacturer shall be responsible for the entire life of his product, including the manufacture, production, and even recovery and disposal of the product.

Ecological use fee: the use of environmental resources charged is one of the main tasks of modern environmental policy. This means that the energy consumption is big, produce more garbage producing wet day, bear the cost is higher, the cost of environmental governance is included in the product price. The specific approach is to impose eco taxes, in order to achieve control of environmental hazards and the use of resources, especially energy consumption purposes.

International cooperation: the environmental problem is a global problem, and the idea of creating its own "environmental island nation" through special measures has proved impractical in practice. The protection of the environment is the common task of all mankind. Therefore, international cooperation must be vigorously pursued. Austria's cooperation is focused on neighboring Eastern European countries.

Sustainable development: this concept clarifies the relationship between environmental protection and economic development, requires coordination between economic development and environmental protection, and promotes human society to embark on a path of sustainable development. Sustainable development should be reflected in all political and economic decisions, and environmental protection and economic development must be combined organically.

National Environmental Plan: The plan is a guide document designed for future development in accordance with the principles of sustainable social development. It is not in the form of thousands of regulations and is not a national future environmental policy, but an important component of the Austrian environmental policy. It is planned to be open, revised every four years, and is mainly used to guide the sustainable development of industries.

In Austria's current environmental legal system, there are mainly "Water Law", "Mountain Law", "Forest Law", "Environmental Supervision Law", "Old waste dump cleanup Law", "Environmental Promotion Law", etc. After Austria joined the European Union, showing its national uniqueness in environmental management, in essence, in an effort to create a situation in which EU standards are aligned with its national standards, with the intention of obtaining the attention and recognition of the international community for its environmental policy and environmental protection work, The aim is to expand Austria's external influence in the field of the environment.

2. Foreign environmental criminal law system use for reference
Like all the countries above, criminal legislation form basically has the following three types: one is revised penal code provisions to add environmental crime, such as Germany, Russia and Austria, etc; Second is to develop a special criminal law to protect the environment in order to supplement the shortage of the ordinary criminal law in protecting the ecological environment, such as Japan, Australia, etc.; Third, the subsidiary criminal law in the environmental protection law, and has made the special stipulation to the environmental criminal responsibility in the law, such as the United States. Environmental criminal punishment in different countries of which basically followed the responsibility presumption of three principles, the aggravated and double punishment, generally the criminal responsibility of execution mode mainly consists of free punishment and property penalty, has great reference significance to our country.

Recent years, our country from their own national conditions, combined with foreign advanced experience, environmental legislation has made great progress. At the present stage the environment criminal responsibility in our country is implemented mainly by the freedom penalty gradually into property punishment, and, like most countries, has a tendency to fine punishment principal punishments. However, the biggest difference between our country and developed countries is our country's economic situation is still grim, environmental legislation must be weighed in the economic development and environmental protection, to absorb international best legislative experience for reference, and
combining the reality of our country in environmental legislation introduced in environmental criminal liability system [3].

First of all, our country may follow the example of some developed countries in the United States in some of the past relevant environmental criminal system, pay attention to market function, adopt various environmental economic means, combined with various environmental economic policies carried out by the market mechanism, the enterprise unit are subject to environmental protection career; Secondly, combining with national conditions should be considered in our country, adding a new crime of criminal law in order to expand its scope of the trial in the environmental protection, such as adding a breach of the nature reserve, the crime of environmental noise pollution, destruction of soil and water conservation, etc.; At the same time, China's response to environmental negligence crime punished. Modernization construction in our country under the new form of any dereliction of duty irresponsible behavior may cause significant ecological environment safety accidents, serious threat to the interests of the state and people. But China's new "criminal law" specific provision will constitute the subjective aspect of environmental crime identified as "intentionally", this is obviously not conducive to the implementation of the basic national policy of environmental protection. Only negligence crime punishment, like Germany, Japan, the United States and other countries really improve environmental conditions and just also accord with overall development trend of environmental criminal legislation around the world [4].

Strengthening environmental protection is urgent. Therefore, only by adopting criminal means and perfecting the system of criminal responsibility for environmental pollution can we play a greater role in the prevention of criminal law. The construction of ecological civilization should be faster and better to protect the environment and be comprehensive and systematic.

3. Conclusion and suggestion

At present, although the government took a series of measures such as investing a lot of money to solve environmental problems, but still not out of the plight of "pollution first, treatment". China's environmental situation is still not optimistic, the environment law still fails to perform its due to curb environmental pollution, ecological destruction and promote the role of environmental protection, environmental legal protection in China has many defects. China's environmental interests of legal protection dilemma embodied in environmental legislation number increases with the improvement of environmental crime coexist, the law for the environment pollution, the environmental crime penalties is low, and the function of the environmental law to prevent failure.

Accordingly, based on the method of the research methods of economics, starting from the present situation of environmental interests of legal protection in our country, using the equilibrium analysis, in the introduction of criminal liability system for environmental pollution actions conform to the law of supply and demand equilibrium principle, the pollution of the environment criminal responsibility should be brought into the law, help to realize the equilibrium of supply and demand of environmental legislation; And based on the analysis of dynamic game between the government and the polluting enterprises, established in the environmental legislation of the criminal liability of environmental pollution behavior, to end between the government, the polluting enterprises in advance about the game of environmental affairs, thus help to curb related interests to extent the behavior of the subject of environmental pollution and ecological damage, and overall power in our country's ecological civilization construction. In addition, from the perspective of cost-benefit, criminal responsibility of environmental pollution in environmental legislation introduced to determine, can increase the cost of enterprise environmental behavior, and increase the criminal punishment can effectively curb the environmental pollution and ecological damage behavior of the enterprise, the environmental legal construction of the introduction of criminal liability is based on the result of improve the legal efficiency into consideration. It seems that the introduction of environmental pollution in environmental law construction of criminal responsibility system in both the feasibility in our country, and is particularly necessary.

From the point of view of the implementation of the criminal liability system for environmental
pollution in China, the economic situation in China and developed countries is still grim, environmental legislation must be weighed in the economic development and environmental protection. On the theoretical analysis and construction of environmental law, the criminal responsibility system based on the international comparison and reference, put forward the following Suggestions: first, China may follow the example of some developed countries in the United States in some of the past relevant environmental criminal system, pay attention to market function, adopt various environmental economic means, combined with various environmental economic policies carried out by the market mechanism, the enterprises are subject to environmental protection career; Secondly, combining with national conditions should be considered in our country, adding a new crime of criminal law in order to expand its scope of the trial in the environmental protection, such as adding a breach of the nature reserve, the crime of environmental noise pollution, destruction of soil and water conservation, etc.; In addition, China's response to environmental negligence crime punished, dealing with the "criminal negligence" shall be penalized, can imitate Germany, Japan, the United States and other countries to improve environmental conditions and conforms to the overall development trend of environmental criminal legislation around the world.

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