On Risk Prevention in International Environmental Law

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Abstract: Risk prevention principle is the principle used to deal with “risk” and “damage”, but in the process of use, due to the non-uniform standard of risk degree and the existence of vague application, it is necessary for countries to unify the definition, standard and application through consultation and negotiation so as to effectively exert risk. The role of the precautionary principle in protecting the environment and human health.

1. Introduction

The principle of risk prevention is to protect the established interests, take corresponding measures against possible risks, and do not require risk prevention on the premise of scientific certification. That is to say, the principle of risk prevention consists of at least three elements: protecting established interests, not requiring scientific certification, and taking preventive measures. From the perspective of international law, the principle of risk prevention is put forward from the perspective of lag and irreversibility of the results of environmental deterioration. The purpose is to protect the environment and human health and promote the sustainable development of the environment and human beings.

2. Summary of Risk Prevention Principles

Risk is the possibility of human and environmental hazards caused by a certain role. A certain role may be chemical, physical, biological and other risks. Its conceptual equation can be expressed by Risk=[f(I)*f(P)-f(D)], where f(I) represents the inherent risk factors, f(P) represents the existential factors, and f(D) represents the use conditions of preventive factors. Internal risk factors focus on internal risk, existing factors focus on damage data, and preventive factors focus on prevention and protection measures. Risk prevention takes risk as a prerequisite, relies on means and objectives, takes causes and results as important parameters, and effectively controls the occurrence of results. The uncertainties and unpredictable results of science and technology, to a certain extent, promote the process of risk research, enhance the awareness of risk prevention, and strengthen risk prevention means, such as earthquake prediction and tsunami prediction, are all related to science and technology and result damage.

The principle of risk prevention refers to the damage to the natural environment and human health caused by certain activities. Before the damage occurs, positive measures should be taken to prevent the occurrence of causality and avoid the damage to human and environment caused by the result. Although risk prevention involves the boundaries of action and omission, its starting point is based on the premise, such as the management of waste discharge and waste disposal, which are all risk prevention actions. From the economic point of view, the cost of prevention of environmental damage is far lower than the cost of treatment. The years and effects of environmental pollution elimination can not solve the source of environmental pollution. Environmental pollution is gradually occurring and deepening. For example, the destruction of ozone layer by Freon needs to be controlled from the source of pollution.

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3. Issues related to risk prevention in international environmental law

3.1 Controversy over the Source of Theory

As early as the 1960s, the principle of risk prevention appeared in German environmental law and initially developed into regional environmental conditions. For example, the London Declaration of the 1984 North Sea Conservation Conference systematically discussed risk prevention: “In order to protect the North Sea from dangerous substances, even if there is no scientific evidence to support its causality, Risk prevention measures should be adopted to control the entry of this species and avoid the occurrence of risk damage. Although the London Declaration was the first international document to articulate the principle of risk prevention. However, the definition of the principle of risk prevention is controversial and has not been fully expressed in the international community.

In the Rio Declaration on Environment and Development, the principle of risk prevention is expressed as “in order to protect the environment, countries should widely apply risk prevention methods according to their own capabilities.” As long as there are serious threats or irreversible damage, the lack of sufficient scientific certainty cannot be used as a reason to delay the adoption of cost-benefit measures for Organizational Environmental degradation.

In 1998, the Westbrand Common Declaration held that when risk prevention principle is considered to be a threat to the environment or human body caused by an activity, no matter whether the causal relationship can be scientifically certified, positive measures should be taken. The burden of proof should be borne by the supporters of the campaign rather than by the public. While the UN Charter of Nature states that “activities should not continue when potential adverse factors are fully understood”, the Convention on Biological Diversity states that “when there is a large-scale reduction or loss of biodiversity, there should be no reason to impede the implementation of preventive measures without scientific certification”.

Of course, there are other conventions, such as the Helsinki Convention, which express the principle of risk prevention. Although the principle of risk prevention has not been uniformly stated, there are common points. For example, “scientific evidence” is not the first reason to protect the environment. As long as there is a possibility of damage to the environment, preventive measures should be taken to protect the environment.

3.2 Applicable fuzziness

Risk prevention principle essentially serves decision-making and is one of the means to avoid certain risks. Although the principle of risk prevention seems reasonable on the surface, there are still some problems in the structural framework, including the uncertainty of preconditions, the risk of risk prevention measures and abuse.

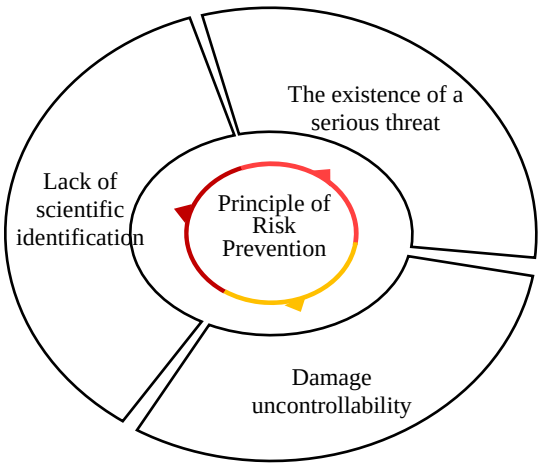

Fig.1 Three Necessary Conditions of Risk Prevention Principle

Firstly, the uncertainty and subjectivity of preconditions. Although the Rio Declaration clearly defines the three necessary conditions of risk prevention principles: the existence of serious threats,

the uncontrollability of damage and the lack of scientific identification (as shown in the figure 1), the breadth and depth of these three conditions are difficult to define in national conventions. In the practice of operation, it is mainly for each country to base itself on its own actual situation.

Secondly, the risk of risk prevention measures. The improper application of risk prevention measures is likely to be “one hazard replaces another hazard”. This is the risk problem of risk prevention measures. A typical example is that “thermal power plant” replaces “nuclear power plant”. Although the risk possibility of nuclear power plant is uncertain, the “nuclear power plant” is prevented by uncertain risk. The application of “power station” adopts “thermal power station”, but the risk of “thermal power station” may be more dangerous, resulting in environmental pollution, air pollution, greenhouse effect and so on. For example, the use of lead batteries instead of gasoline fuels in automobiles, but there is a problem of “lead content rising in the air”. That is to say, one kind of risk prevention can not be completely eradicated, and may enter another risk state. To solve this problem, we should not only make a comprehensive analysis of all risks, but also select a kind of risk prevention measures to minimize the risk, so as to ensure the controllability of risk occurrence, so as to enhance the effect of risk prevention.

Finally, the abuse of risk prevention principle. The most typical abuse of the principle of risk prevention is the application of trade protection. In the “WTO” hormonal case, the EU organized the import of beef with “hormonal content” concerns, lacking scientific basis, which became an excuse for “trade protection”. In the case of such trade protection, some risks are more likely to arise. Implementing trade protection with environmental protection lacks scientific evaluation, which not only affects the development of international trade, but also brings uncertain risks to environmental protection. To change this situation, it is necessary to standardize risk prevention standards and avoid abuse.

4. Measures for Risk Prevention in International Environmental Law

4.1 Unified Criteria of Risk Prevention Principles

Although the definitions and standards of risk prevention principle are not uniform in various international practices and laws, we can start from several elements of risk prevention principle, first lock in the elements, then unify the standards, in order to enhance the scope of application of risk prevention principle. The criteria of risk prevention principle (as shown in Figure 2) include the confirmation of the critical point of risk degree, appropriate risk prevention measures and scientific uncertainty. Some of them include the comprehensive assessment of risk degree and benefit.

Firstly, the critical line of risk degree is the key to distinguish preventive measures from omission. The critical line of risk degree should be defined and classified according to the actual situation of the environment. For high-risk and low-benefit activities, such as waste discharge and waste accumulation, the boundary should be lowered and risk prevention measures should be taken. The Bamako Convention defines the threshold of risk activities as “activities harmful to human beings and the environment”, and the Ecology Convention classifies risk levels as “activities likely to have adverse effects”. For activities with low risks and high returns, the degree of risk, such as greenhouse gas emissions, can be reduced appropriately. The clearer the critical line of risk activities is, the easier risk prevention is.

Secondly, different measures should be taken according to different risk levels to reduce risks for the environment and human health, such as the Bamako Convention, OSPAR Convention for waste disposal is to “stop” as a way to deal with the problem. The Convention on Biological Diversity adopts the principle of “avoiding or reducing adverse effects of risks”, and the Rio Convention expresses measures as “cost-benefit measures”. It can be seen that the adoption of measures should be graded and graded according to the actual situation in order to reduce the risk of damage.

Thirdly, we should unify the comprehensive evaluation of risk and benefit. The implementation of a risk prevention measure requires a lot of manpower, material and financial resources. In order to reduce cost expenditure and avoid unnecessary waste, it is necessary to carry out risk and benefit assessment, properly measure the relationship between risk and benefit, and protect the environment,

human health and other existing interests. For example, the Rio Convention's “cost-effective measures” and the Framework Convention on Climate Change provide for “cost-effective measures to ensure global interests”. To this end, we should use the current science and technology to conduct a comprehensive assessment of the risk and benefit levels to ensure the reasonable and scientific safety of the assessment. If there are certain doubts in the assessment, it should be listed as a risk cause, and we should still take preventive measures to avoid the occurrence of damage results. For example, the benefits of “genetically modified engineering” have not been mentioned, and preventive measures can be adopted appropriately to avoid unnecessary problems and affect the environment and human health.

Finally, scientific uncertainty. The causality between risk and damage results breaks through the limitation of scientific certification, and taking risk prevention measures shows that “risk prevention principle” has certain subjectivity and anti-science, which is based on “risk unknown” and “scientific limitation”. In order to ensure the proper application of “scientific uncertainty”, we should listen to the voices of various channels and enhance the operability of “scientific certification uncertainty”.

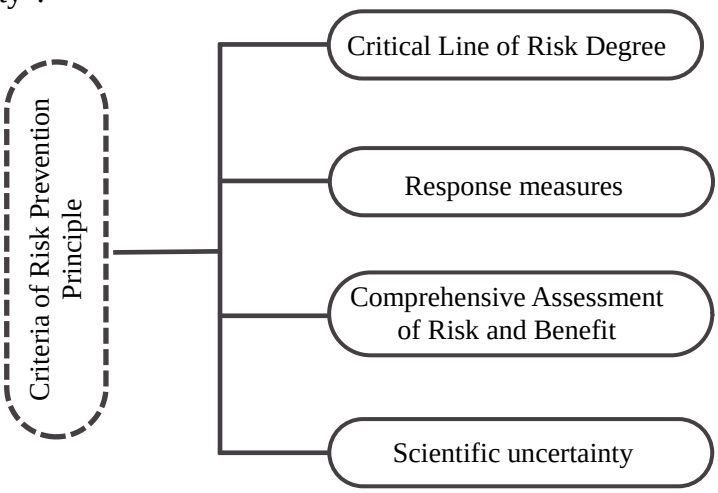

Fig. 2Criteria of Risk Prevention Principle

4.2 Measures to Solve Applicable Problems

To solve the problem of fuzziness, we should base ourselves on practice, standardize international practices from a global perspective, establish a unified principle of risk prevention, and clarify the breadth and depth of the three necessary conditions. Therefore, it is necessary for all countries to negotiate and negotiate to form an environmental protection community.

Firstly, we should synthesize the environmental risk situation of each country, analyze the geographical and climatic conditions of each country, interpret the definition and standard of risk definition, application of science and technology and risk prevention principle, strengthen the role of risk prevention measures in environmental protection, and facilitate the common maintenance of the environment.

Secondly, regarding the problem of risk substitution, we should consider all risks from the overall situation, not only the risks brought by social activities, but also the risks brought by preventive measures. We should control risks by practical and scientific means, relax the operational scale of risk prevention principle as far as possible, reduce risks and protect them. Vested interest.

Finally, in order to avoid the abuse of risk prevention principle, we should analyze the specific situation and specific problems, and deal with the relationship between “return” and “risk” reasonably. When the risk is greater than the benefit, we should reduce the risk prevention principle; when the risk is smaller than the benefit, we should expand the risk prevention principle appropriately. In this case, the risk prevention principle can be better applied and the harm caused by abuse can be reduced through the evaluation between risk and benefit.

5. Conclusion

In environmental law, the principle of risk prevention is to avoid the possibility of environmental disasters. It is to take positive measures to prevent or reduce the occurrence of risk damage in view of the lack of scientific evidence of environmental risks. This principle is based on the principle that “part of the environmental damage cannot be repaired artificially and prevented beforehand and treated afterwards”. However, in the application of risk prevention principle, there are some problems, such as different definitions and standards. Only by unified definitions, unified standards and unified application can we effectively play the role of risk prevention principle and protect the environment and human health.

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