



Patent Law "Greening": Risks Origin of the Precautionary Principle, Establish and Apply

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Abstract: Preventing environmental risk caused by the uncertainty of science, as well as reflection on science and technology optimism, in environmental law first introduced the precautionary principle. Although there is a dispute on the precautionary principle and other meaning, nature and status, but the risk of environmental law, the precautionary principle with its clear and unified core concept for the regulation of environmental risks plays an important role. Through the "chrome tanning waste prepared edible gelatin patent" analysis of events, advocated the establishment of the patent law and apply the precautionary principle, and through the establishment of patent examination and implementation of risk evaluation system, to avoid patent may bring to human health risk, ecological risk and social risk, thus contributing to the Patent Law in promoting social and technological progress at the same time, can effectively control the occurrence of scientific and technical potential risks.

First, the risk of environmental law origin of the precautionary principle

(A) the precautionary principle (Precautionary Principle) generation

1. Scientific uncertainty (Scientific Uncertainty) environmental risks Uncertainty is always with us, it is impossible from a human life (whether an individual or as a society as a whole) are completely eliminated. Science is a part of society, and live in it anything else, full of uncertainty. Scientific research from the most basic measure (size, mass, temperature, etc.) start, has been accompanied by uncertainty. Measurement data can be described quantitatively and observations by statistical methods, and the use of probability on the quality and reliability of the information contained in the data set is estimated. Statistics and probability analysis theory tells us, whether in science or any effort to establish a limited observations on the basis of quantitative analysis, the uncertainty is not fully achieved.

After getting through the surface of things, the relationship between measurements and statistics, if you want to further summarize the course of its existence behind, you may need to be verified by experiment. In this case, scientists will simplify the way things work, these simplistic representation is the "model" (model), such as conceptual model, physical model or a numerical model. For example, if you want to study an ecosystem, because the vast majority of everything in nature has a very complex structure and organization, even the most capable of ecologists to study all the details within the system it is very difficult a. Thus, ecologists will develop a simplified

concept of ecosystem services will focus on some of the main interactions are considered particularly important or component and their constituents.

Because different understanding of the interaction between them ecologists are different, they weigh the degree of participation of different groups of elements are different, so it developed a different model. Between each model has component and interaction coincidence, of course, are missing and missing, but also far more likely to miss more than coincidence. Scientists describe the ecosystem is not complete, we will integrate these ecosystem models to further generate greater uncertainty. Also, new things, unknown things and know very little about things to study, you must experiment. When you need to verify that the problem is relatively simple, we can repeatable experiments, it is once again repeat the experiment to see if we can get the same results, in order to confirm the answer is relatively correct, but more complex experimental model can not Alternative natural process. The natural environment is experiencing a natural experiment that condition by human behavior influence but not control human behavior, these conditions are changing and the system has to respond accordingly to this. Thus, scientists may be able to answer a question limited to a particular environment, but it left a greater natural environment actually happened, more questions unanswered. [1]

2. Science and technology optimism abandon

Unlike risk hazards, risk is not harmful in the future is bound to happen, but by experience and rational judgment is likely to occur in the future harm, the size of the risk level of occurrence in the future means that the likelihood of harm. That may be, there are also hazards may not become a reality technology risk should be what was the attitude, the first 90 years of the last century, the prevailing scientific technological optimism. Originated in the technological optimism of the Enlightenment natural science as the highest form of science that is closely linked with scientific rationality and progress; science, rationality and progress among the scientific truth, guiding ideology, technology is a means, way progress is both inevitable result; this progress will not only bring a wealth of knowledge on the matter and will also bring more democracy and freedom. Technological optimism seen as a fundamental driving force of the technological advances and the decisive factor of social development, and that the progress of science and technology can solve most problems currently facing society, science and technology can completely change our destiny subordinate passive nature.

In the 20th century, the technological optimism of opposites, the prospects for the development of technology extremely concerned, once formed a technology pessimism of thought. Technology pessimism that the height of the development of modern technology is the over-exploitation of natural resources, excessive consumption and serious pollution of the ecological environment, the global environmental pollution and ecological destruction, climate deterioration, shortage of energy resources have become increasingly prominent underlying causes. Technical Pessimism think science and technology is the root of all social problems, science and technology will destroy everything; the technological optimism of science and technology is considered to be the only source of human progress, science and technology will create everything. While technology and technology optimism pessimism different attitudes towards science and technology, but they essentially belong to the category of technological determinism. Technological determinism to technology and society as two can be separated from each system, and the product technology in this community split out from society.

Social constructivist perspective, as one of the constituent elements of a society, science and technology cannot separate from society to uniquely determine the development of social, technological determinism deviations. According to constructivism, technology neutral theory is equally wrong, the traditional concept of technological neutrality is no longer the means to adapt to the development of modern society, science and technology not only solve the problem, it also reflects the wide range of social values and those discoveries, inventions and using its human interests. Science and technology and its social consequences are unified, the consequences and impact of science and technology is intrinsic to science and technology itself. [2] In this sense, the risk is not external to the social characteristics of science and technology, but one of the intrinsic properties of science and technology, science and technology are loads of risk.

3. The introduction of the precautionary principle in environmental law

The precautionary principle of environmental law from the Federal Republic of Germany in the Vorsorgeprinzip (German, meaning "preventive law"). [3] to the mid-1970s, the precautionary principle has become a cornerstone of German environmental policy, "so resilient, flexible acts of interference prevention of risks materialized." [4] Since the 1980s, the precautionary principle of progressive environmental legislation in some countries extensive reference and use, and its support of his government adopted a tough policy in dealing with acid rain, global warming and marine pollution problems lawful of a strong basis. In international law, the first official reference to the precautionary principle is a regional marine environmental protection in the North Atlantic, after application of the precautionary principle in the international environmental field has expanded. After the 1990s, the precautionary principle become an accepted principle of international environmental law, widely applicable to biodiversity conservation, climate change control international environmental protection, marine pollution prevention, control and other dangerous chemicals. [5]

When the precautionary principle have been loaded environment a large number of international legal documents, its definition varied versions differ. James Sigg (JamesE.Hickey) and Vaughn Walker (VennR.Walker) analyzes the definition occurs in as many as fourteen international environment was the main legal documents precautionary principle in 1995 [6] Pa Seoul · Sandy (PerSandin) in the 1999 writings included the precautionary principle defined in 19 kinds of versions. [7] The number of international legal documents mentioned in the risk of the precautionary principle expressed in principle different, is considered to reflect the principles of risk prevention has a strong precautionary principle and the precautionary principle were weak. Is considered to be weak precautionary principle and the precautionary principle strong representative expressed, respectively, in 1992, "the Rio Declaration on Environment and Development" and in 1998 "warm Siby Ryder statement." "Rio Declaration on Environment and Development" principle states: In order to protect the environment, countries should according to their capabilities, extensive use of the precautionary principle. In case of threat of serious or irreversible damage, the lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation. At the same time, "Wen Siby Ryder Statement" stipulates: When an activity on human health and the environment a threat, even if a causal relationship can not be fully proven scientifically, it should take preventive measures. At this point, it should be by the idea of the event rather than the public, bear the burden of proof. [8]

Critics of the precautionary principle such distinctions as the precautionary principle is not uniform connotation example. [9] In their view, when subjected to lack of conclusive scientific evidence on the threat risk, weak precautionary principle requires that threats of serious or irreversible damage, the precautionary principle strong severity of the consequences of not too high requirements; weak precautionary principle allows the government to take precautionary measures in the absence of scientific evidence is really strong precautionary principle requires the government does even in the absence of scientific evidence must also take preventive measures; weak precautionary principle requires governments to take preventive measures before should conduct a cost - benefit analysis, to take strong measures to prevent the risk of the precautionary principle is virtually no cost.

If we can fully understand the risks of the precautionary principle "flexible and resilient", [10] we can conclude that: the precautionary principle more representative expressed no substantial risk to the strength of the difference, in addition to the presence or absence related to the burden of proof conversion (shift the burden of proof) problems away. [11] which together share the risk of the core concept of the precautionary principle: there is no conclusive evidence can not be refused to take precautionary measures as a pretext for science. As for the consequences of the risk is serious enough, can repair, the Government must also be allowed to take preventive measures, the answer given by the precautionary principle may be elastic and flexible. Appear weak precautionary principle is simply to prevent the precautionary principle is too absolute and corrective action taken by the natural, inevitable result is applicable risk precautionary principle, in essence, with the strong precautionary principle is the same. We can certainly say that, whatever its risk is placed in front of the precautionary principle to weigh things, certainly has its benefits.

Whether it is strong or weak precautionary principle precautionary principle, it means choose the costs and benefits of the contest. For example, human cloning technology invented extraordinary medical significance and major industrial interests, but if successful implementation may bring risks to human health, ethics risk and ecological risk unthinkable. In this case, the proceeds in the medical and industrial economy completely ignored, benefits and risks (ie cost) analysis without having to start all countries unequivocally strong precautionary principle is directly applicable against human cloning technology. Therefore, the precautionary principle does not, in essence, the strong and weak points, some scholars individuals precautionary principle strong and weak understanding and distinction, can not be refuted precautionary principle grounds with a clear meaning.

Further explanation is needed, along with in-depth study of the precautionary principle, and many scholars have recognized in the application of the precautionary principle, if requested the Government to provide evidence for the validity of the precautionary measures to be taken, the difficulty will be very large, therefore, propose the risk should be borne by the company or individual businesses or individual behavior proved no risk to the government to take precautionary measures against the burden of proof. [12] This is the strong precautionary principle appears in the burden of proof conversion. In this case, the burden of proof and the burden of proof inversion convert the same meaning. [13]

The nature and status of (ii) the precautionary principle

Some scholars believe that the precautionary principle can only be a supporting, in principle, the State party should refer to the decision-making process of guiding, nominally called "principles", in fact, has no direct legal binding. [14] But it is undeniable, in the field of international law, scholars generally agree that the precautionary principle has become or is becoming a part of binding customary international law. [15] Whether or in the United States, today's the precautionary principle in addition to environmental issues, further extends the EU to the other branches of law and legal regulation in areas such as food safety, consumer protection laws, Science and Technology Act [16] Human Rights Act, [17] the rights of the Child Protection Act [18].

In the US, the risk of critics of the precautionary principle is often regarded as the precautionary principle "could not rooted in America's European poisonous exotic" ("an exotic import from Europe that has not been embraced in the United States"), [19] considered Europe has become the universal principles of law the precautionary principle in the United States but is a legal concept, does not have the status of legal principles. [20] However, the precautionary principle has actually been deeply implanted in the United States law, and constitutes the United States in the field of public health and environmental protection in the foundation of a large number of administrative licensing procedures, such as US FDA new drug review process (The Food and Drug Administration's review process for new drugs) is an obvious example. [Twenty one]

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Comment:

[1] See [US] Henry · N · Pollack: "Uncertain Science and uncertain world," Li Pingping translation, Shanghai Century Publishing Group, 2005, p. 121-122.

[2] See Zhao Wanli: "Science and technology and social risks", in "Science Technology and Dialectics" 1998 3.

[3] See Julian Morris, Defining the Precautionary Principle, RETHINKING RISK AND THE PRECAUTIONARY PRINCIPLE, Julian Morris ed. , Butterworth-Heinemann, 2000,1-21.

[4] Timothy O'Riordan & James Cameron, The History and Contemporary Significance of the Precautionary Principle, INTER-PRETING THE PRECAUTIONARY PRINCIPLE, Earthscan, 1994,12-28.

[5] See Ke Jian: "On legal protection of bio-security risk precautionary principle", in "science magazine" 2001 3.

[6] See James E. Hickey, Jr. & Venn R. Walker, Refining the Precautionary Principle in International Environmental Law, 14VA. ENVTL. L. J. 423,1995.

[7] See Per Sandin, Dimensions of the Precautionary Principle, Hum. Ecol. Risk Assess. Vol. 5 No. 5,1999.

[8] See Noah M. Sachs, Rescuing the Strong Precautionary Principle, University of Illinois Law Review, No. 4,2011.

[9] See supra note [3].

[10] Supra note [4].

[11] See supra note [5].

[12] See supra note [8].

[13] The burden of proof is to convert more than one word, sometimes it's with the same meaning as the burden of proof inversion, become concept can substitute each other. See Tang Weijian: "On the burden of proof in civil action inversion (On)", contained "applicable law" 2002 2.

[14] See high dew, ZHOU Zhen new: "On the precautionary principle in the international legal status", contained "Jiangxi social science" 2012 the fourth period.

[15] See Owen McIntyre & Thomas Mosedale, The Precautionary Principle as a Norm of Customary International Law, 9 J. EN-VTL. L. 221,1997.

[16] See high-Wei Qin: "On the risk of the EU Administrative Law precautionary principle", in "Comparative Law" in 2010 the third period.

[17] See Zhao: "Risk, Uncertainty and the precautionary principle - a study of administrative law perspective", in "Administrative Review" Vol. 12, Law Press, 2009 edition, page 194.

[18] See Helene Guldberg, Child Protection and the Precautionary Principle, RETHINKING RISK AND THE PRECAUTIONARYPRINCIPLE, Julian Morris ed. , Butterworth- Heinemann, 2000,127-139.

[19] Supra note [8].

[20] See Lawrence A. Kogan, The Extra-WTO Precautionary Principle: One European "Fashion" Export the United States Can Do Without, 17 TEMP. POL. & CIV. RTS. L. REV. 491,2008.

[21] See supra note [8].