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THE PRECAUTIONARY PRINCIPLE IN THE INTERNATIONAL ARENA

By Mary Stevens

“WHEN AN ACTIVITY RAISES THREATS OF HARM TO THE ENVIRONMENT OR HUMAN HEALTH, PRECAUTIONARY MEASURES SHOULD BE TAKEN EVEN IF SOME CAUSE AND EFFECT RELATIONSHIPS ARE NOT FULLY ESTABLISHED SCIENTIFICALLY.”
WINGSPREAD STATEMENT ON THE PRECAUTIONARY PRINCIPLE,
1998.

The purpose of this paper is to introduce the precautionary principle in terms of its history, use, and application in several different international agreements. The precautionary principle is preventative in nature and stems from the idea that just because an activity cannot be proven unsafe does not mean that it does not have any negative effects. It has been heralded and criticized by scientists alike, and it has been applied in so many different ways that its definition depends on which international agreement one is reading.

DEVELOPMENT OF THE PRECAUTIONARY PRINCIPLE

BEGINNINGS

The “precautionary principle” has not been present in the field of international environmental law for very long, yet it has achieved a prominent position as a major topic of debate over the past ten years. In essence, it advocates the use of precaution in situations where some scientific uncertainty exists.

The point of the precautionary principle is to anticipate and avoid environmental damage before it occurs. This preventive measure, which is novel in many ways, would ultimately serve to lower mitigation costs of resultant environmental damage. The implementation of the precautionary principle is problematic in an economic sense because it places more responsibility on those who create potential risks than in the past. Its most important – and debatable – feature is that it shifts the burden of scientific proof from those who would like to prohibit or slow down a potentially dangerous activity to those who conduct the activity.¹

Most commentators agree that the precautionary principle originally emerged from Germany in the mid-1970s.² A decade later, during international conferences held to discuss the protection of the North Sea, Germany introduced its precautionary principle to the rest of the world. At first, the word “precaution” was not even used; the parties agreed instead that “damage to the environment can be irreversible or remediable only at considerable expense and over long periods and that, therefore, coastal states and the EEC must not wait

for proof of harmful effects before taking action.”³

In 1987, at the second conference where the London Declaration was adopted, a “precautionary approach” was introduced.⁴ Even with regard to the protection of the ozone layer, the Preamble to the Montreal Protocol provided for precautionary measures to be taken in controlling CFCs.⁵ By 1990, the Precautionary Principle was being referenced in its own right: the parties to the third conference at the Hague stated that they “will continue to apply the precautionary principle, that is to take action to avoid potentially damaging impacts of substances that are persistent, toxic, and liable to bioaccumulate even when there is no scientific evidence to prove that a causal link exists between emissions and effects.”⁶ It could also be found in the 1990 Bergen Declaration on Sustainable Development, which connected the importance of taking caution in innovation with the achievement of sustainable development.

In order to achieve sustainable development, policies must be based on the precautionary principle. Environmental measures must anticipate, prevent and attack the causes of environmental degradation. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.⁷

The precautionary principle has been referenced in dealing with the protection of the marine environment. Article 2 of the OSPAR Convention states:

The precautionary principle, by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects.⁸

Also in 1990, the principle of precaution was included in the White Paper on Britain’s Environmental strategy

(“White Paper”).⁹ In the paper, it was written that:

We must analyze the possible benefits and costs both of action and of inaction. Where there are significant risks of damage to the environment, the Government will be prepared to take precautionary action to limit the use of potentially dangerous pollutants, even where scientific knowledge is not conclusive, if the balance of the likely costs and benefits justifies it. This precautionary principle applies particularly where there are good grounds for judging either that action taken promptly at comparatively low cost may avoid more costly damage later, or that irreversible effects may follow if action is delayed.¹⁰

Europe expressed its belief in the precautionary principle again in 1991 during a meeting between the parties to the 1972 London Dumping Convention. There the parties agreed that “appropriate measures are taken where there is reason to believe that substances or energy introduced into the marine environment are likely to cause harm, even when there is no conclusive evidence to prove a causal relation between inputs and their effects.”¹¹ Also in 1991, the Bamako Convention, which was convened to discuss problems of hazardous waste shipments to African countries by wealthier, industrialized ones, employed a strict version of the precautionary principle. Under this convention, the parties agreed to prevent “the release into the environment of substances which may cause harm to humans or the environment *without waiting for scientific proof* regarding such harm.”¹²

1992 AND BEYOND

1992 was a big year for international environmental agreements and the precautionary principle is found throughout. In 1992, the landmark Rio Declaration was signed at the United Nations Conference on Environment and Development (“UNCED”), which was the second significant worldwide conference on the environment. Twenty years prior, the United Nations Conference on the Human Environment took place in Stockholm, Sweden. This first conference was motivated primarily by concern over transboundary pollution, particularly in the form of acid rain. The precautionary principle was not yet developed at the time of the Stockholm Convention.

However, the precautionary principle did emerge from the Rio Conference.¹³ Article 15 of the Rio Declaration elaborated upon this constantly-evolving concept. Article 15 is extremely important because it was the first time that the United States joined an international agreement that utilized the precautionary principle. Because of this, Article 15 was the result of painstaking negotiations and compromise.

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall

not be used as a reason for postponing cost-effective measures to prevent environmental degradation.¹⁴

During 1992, international parties convened for the United Nations Framework Convention on Climate Change. This Convention dealt with the problem of pollution, specifically that of greenhouse gases which are causing temperatures to rise on a global level. The precautionary principle was referenced at this convention as well. The text provides that

The parties should take precautionary measures to anticipate, prevent, or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measure, taking into account that policies and measure to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost.¹⁵

The Biodiversity Convention was also agreed to in 1992. Once again, the precautionary principle was mentioned. Interestingly, the use of the principle in the preamble of this agreement did not include the cost-benefit language found in Principle 15 of the Rio Declaration.

Where there is a threat of significant reduction or loss of biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimize such a threat.

The principle was also found in the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, stating that precaution will be taken regardless of whether “scientific research has not fully proved a causal link”¹⁶ Finally, it was also included in the 1992 Maastricht Treaty and has continued to be an important principle guiding the European Union:

The Community policy on the environment . . . shall be based on the precautionary principle and on the principles that preventative action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay. Environmental protection requirements must be integrated into the definition and implementation of other Community policies.¹⁷

IMPLICATIONS

Some legal commentators have argued that the precautionary principle has approached the level of customary international law.¹⁸ On the other hand, it is also pointed out that this status has not yet been achieved due to the fact that

the precautionary principle is somewhat vague, has been interpreted in several different ways, and is not accepted by much of the world on a national level.¹⁹ One description of the precautionary principle is that it is an evolving, culturally-framed concept “that takes its cue from changing conceptions about the appropriate roles of science, economics, ethics, politics and the law in pro-active environmental protection and management.”²⁰

In many ways, the precautionary principle represents legal concepts that are not new. James Cameron, a proponent of the principle, points out several different existing legal principles that he believes are “indirect” precautionary measures. Most significant is the tort concept of strict liability, which provides for absolute liability in activities, such as the burial of environmental waste, that are considered to be “abnormally dangerous.” Cameron explains that the possibility of being held strictly liable, where acting with reasonable care does not matter, causes actors to be more careful and consider the costs of potential liability before acting.²¹

Cameron makes a second point. He believes that insurance mechanisms are also evidence of precautionary measures already in the system. “[I]nsurance schemes . . . create substantial financial incentives against generating environmental inputs that may subsequently have a degrading effect, but which cannot currently be conclusively shown to do so.”²²

Thirdly, the precautionary principle has been analogized to environmental impact assessments. This is an important connection as well. The National Environmental Protection Act²³ (“NEPA”) is an example. NEPA requires agencies of the United States government to prepare an environmental impact statement with respect to “major federal actions significantly affecting the quality of the human environment.”²⁴ NEPA has been a model for several countries that have instituted similar laws and now can be found in various international treaties and declarations. Principle 17 of the Rio Declaration is instructive.²⁵ Cameron points out that “in themselves . . . environmental impact assessments amount to a form of mandated information provision, with precautionary effects similar to those made possible by environmental empowerment; they are precautionary enabling devices.”²⁶

One final point needs to be made about the principle. It is most commonly criticized on the grounds that uncertainty is something that is inherent to the scientific process and that it is not scientifically possible to prove any fact with 100% certainty. The fundamental basis of science is to disprove a theory not prove it conclusively. Even when broad consensus of the scientific community is found, there will always be a few who disagree and some level of uncertainty will always exist.²⁷

Proponents of using precaution acknowledge this undeniable reality but point out that some problems have several layers of different types of scientific issues and therefore, several layers of uncertainty. It is this complexity of uncertainties that cause concern to many. The more uncertainties that exist increase the possibility that some unforeseen or otherwise unrelated factor could change the outcome or prediction of potential harm. In other words, the risk profile of the problem changes. Because of this added complexity, advocates say that the precautionary principle is a

theory that should be essential in its guidance of policy, however imperfect it may be.²⁸ ○

¹ This shift of the burden of proof is not common in environmental law. For example, in the United States, environmental impact assessments, which are required under the National Environmental Protection Act (“NEPA”) and are extremely important mechanisms for determining the environmental, social and economic viability of a major project, do not shift the burden of proof where there is scientific uncertainty. Normally, the burden of proving that an activity will be harmful falls on those who suggest the potential harm, instead a requirement that the party proposing the project prove its harmlessness. See generally NEPA, Ronnie Harding & Elizabeth Fisher, *Introducing the Precautionary Principle*, in RONNIE HARDING & ELIZABETH FISHER, EDs., PERSPECTIVES ON THE PRECAUTIONARY PRINCIPLE 2-22 (1999).

² See Wybe T. Douma, *The Precautionary Principle*, T.M.C. Asser Institute, available at <http://www.asser.nl/EEL/virtue/precprin.htm>. The German conception of the precautionary principle, Vorsorgeprinzip, distinguished between human behavior that causes danger and human behavior that causes risk. Dangerous effects are to be prevented by the government by all possible means (Gefahrenvorsorge). If there is a risk of dangerous effects, the government must investigate the possibilities of risk prevention and take preventative measures if the risk is great enough (Risikovorsorge). See *id.*; See also Harding & Fisher, *supra* note 1. Some scholars also assert that the basic concepts behind the precautionary principle were discussed at the United Nations Convention on the Human Environment in Stockholm, 1972.

³ See First International Conference on the Protection of the North Sea, Bremen, 1984; See also DAVID HUNTER, JAMES SALZMAN & DURWOOD ZAELEKE, INTERNATIONAL ENVIRONMENTAL LAW & POLICY 360-61 (1998); Douma, *supra* note 1. See generally James Cameron & Juli Abouchar, *The Precautionary Principle: A Fundamental Principle of Law and Policy for the Protection of the Global Environment*, 14 B.C. INT’L & COMP. L. REV. 1 (1991).

⁴ See Ministerial Declaration for the Second International Conference on the Protection of the North Sea (Nov. 25, 1987); See also Douma, *supra* note 1. Furthermore, the OSPAR Convention was organized for the protection of the marine environment and included the precautionary principle in Article 2.

The precautionary principle, by virtue of which preventive measures are to be taken when there are reasonable grounds for concern that substances or energy introduced, directly or indirectly, into the marine environment may bring about hazards to human health, harm living resources and marine ecosystems, damage amenities or interfere with other legitimate uses of the sea, even when there is no conclusive evidence of a causal relationship between the inputs and the effects.

⁵ See *Montreal Protocol on Substances that Deplete the Ozone Layer*, 1987. The Preamble states “[n]oting the precautionary measures for controlling emission of certain chlorofluorocarbons that have already been taken at national and regional levels.”

⁶ Final Declaration of the Third International Conference on Protection of the North Sea, Mar. 7-8, 1990. 1 YB Int’l Env’t Law 658, 662-73 (1990).

⁷ See Bergen Conference on Sustainable Development.

⁸ Convention for the Protection of the Marine Environment of the North-east Atlantic, Art. 2, Sept. 22, 1992, 32 I.L.M. 1069 (1993).

⁹ See *This Common Inheritance: Britain’s Environmental Strategy*, Sept. 1990.

¹⁰ *Id.* at § 1.18.

¹¹ See London Dumping Convention Amendments (1991).

¹² Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and the Management of Hazardous Wastes Within Africa, Jan. 30, 1991, OAU/CONF/COOR/ENV/MIN/AFRI/CONV.1(1) Rev.1, reprinted in 30 I.L.M. 773

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(CONTINUED FROM PAGE 15)

¹³ The precautionary principle was applied in more than one agreement at Rio. For example, Agenda 21, an international blueprint for sustainable development, included the precautionary principle when dealing with radioactive waste. See Agenda 21, Ch 22, sub-s (5)(c) (agreeing that states should make “appropriate use of the concept of the precautionary approach”).

¹⁴ Rio Declaration, Principle 15.

¹⁵ United Nations Framework Convention on Climate Change, May 9, 1992, art. 3, para. 3, U.N. Doc. A/CONF.151/26, *reprinted in* 31 I.L.M. 849.

¹⁶ See Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Mar. 17, 1992, 31 I.L.M. 1312, 1316.

¹⁷ See Maastricht Treaty, February 7, 1992, Title XVI, Article 130r, §2 of the Treaty of Rome as amended by Title II of the Treaty on European Union.

¹⁸ See James Cameron, *The Precautionary Principle: Core Meaning, Constitutional Framework and Procedures for Implementation*, in RONNIE HARDING & ELIZABETH FISHER, EDS., PERSPECTIVES ON THE PRECAUTIONARY PRINCIPLE 30 (1999)

¹⁹ See C. Tinker, *State Responsibility and the Precautionary Principle*, in DAVID FREESTONE & ELLEN HAY, EDS., THE PRECAUTIONARY PRINCIPLE AND INTERNATIONAL LAW, THE CHALLENGE OF IMPLEMENTATION 53 (1996).

²⁰ See Timothy O’Riordan & James Cameron, *The History and Contemporary Significance of the Precautionary Principle*, in TIMOTHY

O'RIORDAN & JAMES CAMERON, EDS., INTERPRETING THE PRECAUTIONARY PRINCIPLE 12 (1994).

²¹ See Cameron, *supra* note 18, at 50 (stating that systems of strict liability “stimulate proto-polluters to assess the likely effects of their actions before they take place, and in circumstances where those effects remain uncertain they create a strong incentive to refrain from the potentially damaging act altogether”).

²² *Id.* at 51.

²³ See 42 U.S.C.A. §§4321-4370d.

²⁴ See 42 U.S.C.A. §4332(c).

²⁵ Principle 17 states: Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.

²⁶ Cameron, *supra* note 18, at 53.

²⁷ Hunter et al, *supra* note 3, at 25-27 (discussing “Hume’s problem”: the idea that “[n]o matter how many times a phenomenon is observed, we cannot be sure that this represents a universal pattern of ‘law’”)

²⁸ See *id.*