

The Precautionary Principle

The Precautionary Principle is defined as when human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm.

Morally unacceptable harm refers to harm to humans or the environment that is:

- Threatening to human life or health; or
- Serious and effectively irreversible; or
- Inequitable to present or future generations; or
- Imposed without adequate consideration of the human rights of those affected.

The judgement of plausibility should be grounded in scientific analysis. Analysis should be ongoing so that chosen actions are subject to review. Uncertainty may apply to, but need not be limited to, causality or the bounds of the possible harm.

Actions are interventions that are undertaken before harm occurs that seek to avoid or diminish the harm. Actions should be chosen that are proportional to the seriousness of the potential harm, with consideration of their positive and negative consequences, and with an assessment of the moral implications of both action and inaction. The choice of action should be the result of a participatory process.¹

The application of precaution does not remove the need for a scientific risk analysis to be undertaken and progressively refined as further scientific evidence becomes available. The precautionary principle implies that there is a social responsibility to protect the public from exposure to harm, when scientific investigation has found a plausible risk. These protections can be relaxed only if further scientific findings emerge that provide sound evidence that no harm will result.

In some legal systems, as in the law of the European Union, the application of the precautionary principle has been made a statutory requirement in some areas of law. The precautionary principle is integrated with many legally binding international treaties such as the Rio Declaration and Kyoto Protocol. Principle 15 of the Rio Declaration states, “In order to protect the environment, the precautionary approach shall be applied widely 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”.²

‘Application of the precautionary principle in New Zealand’ outlines how the precautionary principle has been applied in areas where the principle has been either explicitly or implicitly adopted.³ It also refers to the Report of the Royal Commission on Genetic Modification (2002) which reached the following conclusion:

¹ From <http://www.precautionaryprinciple.eu/> from the UNESCO COMEST report The Precautionary Principle/

² Position Statement on the Application of Precaution in Managing Biosecurity Risks Associated with the Importation of Risk Goods <http://www.biosecurity.govt.nz/bio-strategy/library/position-precaution.htm>

³ Application of the precautionary principle in New Zealand <http://www.treasury.govt.nz/publications/research-policy/ppp/2006/06-06/06.htm>

“Although we heard much discussion of the precautionary principle and the precautionary approach from those who opposed release of genetically engineered organisms, there was no consensus on the meaning of either term. The meaning of precaution often rests on the values of the speaker.

“...We were not convinced that a single principle could be applied across the board to the issue of genetic modification in New Zealand. Decisions on the use of technology must rest on a range of factors, including the risks and acceptability to the public of the proposed use. They are factors that should inform the process of modifying genetic modification.”

This paper reports that the Royal Commission recommended that a greater range of options be considered. It reported the regulation of genetically engineered organisms is currently based on both the weak and strong forms of the precautionary principle. When there are high risks, high irreversibility of impacts, and a high degree of uncertainty about those impacts, the strong form of the precautionary principle is applied and the application is declined. Such an application would be declined regardless of whether the available evidence showed the genetically engineered organism to be safe or unsafe, as the impacts associated with getting it wrong would be considered too great. On the other hand, where there are low risks, low irreversibility and a low degree of uncertainty, minimal regulation and monitoring may be applied. Prior to the Report of the Royal Commission (2002), there were two options – field testing and open release (without controls), but nothing in between. The Commission recommended the introduction of a new category, “conditional release”, to provide a greater range of options.

The precautionary principle is a strategy that must be applied to safeguard from possible risks where scientific understanding is yet incomplete, such as the risks of genetically engineered organisms and systemic insecticides.

Note: genetic engineering and genetic modification are synonymous.

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