

PRECAUTIONARY PRINCIPLE AS KEY ELEMENT OF SUSTAINABLE DEVELOPMENT

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Abstract:

Recently, the world has witnessed widespread environmental issues due to economic development, which is based primarily on the industry; this led many countries to adopt the sustainable development concept in their development policies. Sustainable development is the development that takes into consideration environmental protection in social and economic development. It is based on several principles, mainly the precautionary principle. This paper sheds light on the role of the precautionary principle in achieving sustainable development.

Keywords: Sustainable development, Environmental Protection, Precautionary Principle, Precautionary Approach.

Introduction

During the last decades, the world has witnessed widespread environmental problems, particularly climate change, depletion of natural resources, pollution, and biodiversity loss. As a result of the economic development that is based primarily on the industry. This led many countries to adopt the concept of sustainable development in their development policies, which was defined according to the Brundtland commission 1987 as “the development that meets the needs of current generations without compromising the next generations from meeting their own needs”. Consequently, sustainable development has become the theme of almost all environmental conferences since 1992.

This concept is based on a set of principles adopted in the Rio summit (1992), known as the Rio declaration, which involved a “precautionary principle”. This latter has its roots in the early 1970s in the German Environmental Law, and it aimed to reduce emissions using the available technology.

Thus, to what extent does the precautionary principle contribute to achieving sustainable development?

In order to answer this question, this article is divided into two sections; the first section deals with the conceptual framework of sustainable development and the precautionary principle, and the second section focuses on the role of the precautionary principle in achieving sustainable development.

First Topic

Conceptual Framework of Sustainable Development and Precautionary Principle

This chapter addresses the definitions, aspects, components related to both sustainable development and precautionary principle.

Definition of Sustainable Development:

In its 1987 report entitled ‘Our Common Future’, the World Commission on Environment and Development gave the most popular definition to this date

“development, which meets the needs of the present without compromising the ability of future generations to meet their own needs”¹. This definition contains two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of 'limitations' imposed by the state of technology and social organization on the environment's ability to meet present and future needs.²

In 2002, the World Summit on Sustainable Development marked a further expansion of the standard definition with the widely used three pillars of sustainable development: economic, social, and environmental. The Johannesburg Declaration created “a collective responsibility to advance and strengthen the interdependent and mutually reinforcing pillars of sustainable development; economic development, social development, and environmental protection at local, national, regional, and global levels.”³

At the national level, the Algerian legislator also stated the concept of sustainable development in law No.03-10 relating to environmental protection within the framework of sustainable development, it means “reconciling sustainable social and economic development with environmental protection, i.e. the insertion of the environmental dimension in a development framework that ensures meeting the needs of present and future generations.”⁴

In other words, sustainable development is the social and economic development that takes into consideration environmental protection in the development process.

Aspects of Sustainable Development:

There are three aspects of sustainable development that have usually been recognized in the comprehensive debate and usage of the term since its appearance, they are economic, social, and environmental aspects.⁵

- a) An economically sustainable system must be able to produce goods and provide services continuingly, sustain manageable levels of government and external debt, and prevent severe sectoral imbalances that harm agricultural or industrial production.*
- b) An environmentally sustainable system must maintain a secure resource base, avoid over-exploitation of renewable resources, and depletion of non-renewable resources only to the extent that appropriate alternatives are made for investment. This involves the conservation of biodiversity, atmospheric stability, and other ecosystem functions which are not usually considered to be economic resources.*
- c) A socially sustainable system must achieve distributional equity, sufficient provision of social services including health and education, gender equity, and political accountability and participation.*

Definition of Precautionary Principle:

The term precaution first emerged in the Federal Republic of Germany in the 1970s. At the time, countries like the United States and the United Kingdom had already introduced elements of precautionary thinking into their environmental policies, but it was Germany that transformed it into a wider environmental

philosophy. In the 1980s, Germany's government used the *Vorsorgeprinzip* (foresight or precautionary principle) to justify the introduction of tough policies to combat acid rain, global warming, and pollution of the North Sea. In response to these issues, *Vorsorge* suggested that the best available technologies be used to reduce emissions at the source.⁶

The precautionary principle has been described in various ways, such as an international application of the German law principle of precautionary action or a variety of regulatory approaches taken by governments to enforce this principle, such as reducing pollution at the source using the best available technology. The precautionary principle can be considered as a theory or justification for strict liability for environmental damage based on the law of obligations or tort, with the intention of compensating victims in the event of harm. The precautionary principle may also be interpreted as a responsibility to take precautionary measures and prevent danger. In practice, the precautionary principle can be viewed as constituting a core duty requiring the environmental impacts assessment or other regulatory investigations to be undertaken before certain actions are permitted.⁷

In legal literature, the precautionary principle is defined as a method of imposing duties of awareness and risk management whenever there is a scientifically undocumented but probable risk.⁸

There are two distinct versions of the precautionary principle; the weaker version, such as that adopted in the Rio declaration: "In order to protect the environment, the precautionary approach shall be widely applied by states according to their capacities. Where there are threats of serious irreversible damage, lack of scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." The strong version of the precautionary principle is characterized by Shifting the burden and raising the level of proof, by requiring the supporters of the activities to prove that they will not cause harm. This means that the public is not prepared to take any environmental risks.⁹

The Difference between Precautionary Principle and Precautionary Approach:

There has been much debate over whether the terminology precautionary principle or precautionary approach is equivalent and/or should be used. There are two related distinct debates, one is about the content of the legal guidance, the second is about the legal status of the guidance.

The precautionary approach has been argued as preferable terminology because the precautionary principle tends to require that risk to be prevented or reduced, therefore, it gives the environment the benefit of the doubt; while the precautionary approach implies flexible operational measures that are context-sensitive and allows for the balancing of various objectives, including economic ones. For instance, in fisheries, the term precautionary principle is often viewed as a hard-line approach requiring complete prohibitions, so "Precautionary approach" has been preferred. However, giving that the general definition of a legal principle implies flexible, context-specific guidance rather than mandating a particular outcome, this distinction does not appear a useful one.

Others have argued against the acceptance of precaution as a "principle" of environmental law, implying a broad requirement to use precaution in decision-making, in favor of seeing precaution as merely one policy/management "approach" to coping with unknown threats, which may be preferred over alternative approaches

depending on circumstances. While it is undeniable that explicit legal criteria or guidelines in favor of precaution exist in specific cases, this debate centers on the larger (unresolved) issue of whether precaution has become part of customary international law. Contention may also be sparked by the difficulty that certain regulatory frameworks, such as the United States, have in accommodating broad, generally applicable principles that allow wide discretion in decision-making.¹⁰

There have been a variety of approaches to this term. In a discussion paper, the Canadian government uses the term precautionary principle/approach interchangeably, while Australian fisheries policy states that the precautionary principle is applied through using the precautionary approach. The term Approach is preferred by US policymakers, while “principle” is preferred by European community institutions. According to a recent comprehensive legal treatment of the precautionary principle, the distinction is an unnecessary debate, a theoretical war of words between policymakers.¹¹

Based on this understanding the terms “precautionary principle” and “precautionary approach” are used interchangeably in this paper.

Components of Precautionary Approach/ Principle:

A precautionary approach to environmental and public health decision-making includes the following specific components:¹²

a- Taking precautionary action before scientific certainty of cause and effect: The precautionary principle is recognized in most of the international treaties as a general obligation on states to behave under uncertainty. This creates an accountability system for avoiding damage.

b- Setting objectives: The precautionary principle promotes planning based on well-defined objectives rather than future scenarios and risk estimates, which can be subject to mistakes and prejudice.

c- Seeking out and evaluating alternatives: Instead of asking what degree of risk is acceptable or cost-effective, the precautionary method explores all available options for reducing or eliminating the danger, including avoiding the proposed operation. Alternatives to a potentially dangerous activity must, of course, be investigated as thoroughly as the activity itself.

d- Shifting burdens of proof: Proponents of a particular practice must demonstrate that it would not affect human health or ecosystems in any way. Those with the authority, influence and resources to intervene and avoid harm should be held accountable. There are many aspects of this responsibility:

- *Financial accountability:* Regulations alone are unlikely to compel governments or proponents of a controversial practice to take precautionary measures. Market rewards, such as requiring a bond for the worst possible consequences of an operation or responsibility for losses, on the other hand, allow businesses to consider ways to avoid negative effects.
- *The duty to observe, understand, investigate, inform and act:* Under the precautionary decision-making scheme, those who engage in potentially harmful activities will be required to routinely monitor their activities' impacts (with potential third-party verification), inform the public and authorities when a potential impact is found, and take action based on it.

Ignorance and confusion are no longer valid reasons to delay taking preventative measures.

e- Developing more democratic and thorough decision-making criteria and methods: *Precautionary principle requires a new way of thinking about decisions, weighing scientific and other evidence against uncertainty, and the necessity of public involvement in decision-making.*

Second Topic

The role of Precautionary Principle in Achieving Sustainable Development

This section deals with the relationship between sustainable development and the precautionary principle, the precautionary principle in sustainable development treaties, and guidelines to apply the precautionary principle effectively.

The relationship between Sustainable Development and Precautionary Principle:

Preventing environmental harm is the key goal of the precautionary principle. Sustainable development is based on the integration of environmental protection in economic, and the precautionary principle, combined with the environmental assessment process, offers a solid tool for achieving this integration.

In order to achieve sustainable development, policies must be based on the precautionary principle, in which the environmental measures must predict, avoid, and combat environmental degradation's triggers. Where there is a risk of severe or permanent harm, a lack of complete scientific certainty should not be used as a justification for delaying environmental protection measures.

Another aspect of the preventive principle is to ensure that future generations will have enough opportunities to meet their needs. This inter-generational equity principle is considered a basic element of sustainable development that can be accomplished through the implementation of the precautionary principle.

As a result, there is no doubt that the precautionary principle plays a significant role in achieving sustainable development. Since it is subject to important reservations such as the economic capacities of states, its implementation does not impose extra pressure on states, as its opponents say.

As previously stated, its significance lies in the timing of action rather than the type of action required. In other words, if mitigation steps are delayed or not taken at all in the face of severe environmental challenges, sustainable development will become an unachievable dream rather than a reachable goal. The concern with delaying environmental protection measures is that it could be too late by the time they are implemented. As a result, delaying action, particularly in relation to global environmental issues like global warming, can have severe repercussions.¹³

Precautionary Principle in Sustainable Development Treaties:

Precautionary principle or approach was mentioned explicitly in many sustainable development treaties from 1982 to 2012.¹⁴

- a. **World Charter for Nature on 28 October 1982:** Arts 11(a) and (b): *Activities that may have an impact on nature must be controlled, and the best available*

technologies must be employed to minimize substantial risks to nature or other undesirable impacts.

- b. ***Rio Declaration on Environment and Development on 12 August 1992:*** *Report of the UN Conference on Environment and Development, Annex I, Principle 15; in order to protect the environment, states should use the precautionary approach according to their capabilities. When there is a risk of serious or irreversible damage, lack of complete scientific certainty should not be used as a justification for delaying cost-effective measures to avoid environmental degradation.*
- c. ***Bergen Ministerial Declaration on Sustainable Development in the European Commission for Europe (ECE) Region (1990):*** *Policies must be built upon the precautionary principle in order to achieve sustainable development. Environmental measures must predict, mitigate, and combat environmental degradation's causes.*
- d. ***Agenda 21: A Programme for Action for Sustainable Development, Report of the UN Conference on Environment and Development on 12 August 1992, Annex II includes:***
 - *Objective 17.5: the Coastal States undertake to integrate management and sustainable development of coastal areas and the marine environment under their authority by using preventative and precautionary measures in project design and implementation.*
 - *Objective 17.22: States commit to avoid, minimize, and manage the environmental degradation in the marine environment. They aim to maintain and improve its life-support and productive capacities, through applying the preventive, precautionary, and anticipatory approaches.*
 - *Activities 17.128: Small island developing States should provide logical response strategies to deal with the environmental, social, and economic impacts of climate change and sea-level rise depending on precautionary and anticipatory approaches.¹⁵*
 - *Activities 18.40: All States, depending on their capacity and available resources, could execute operations of water pollution prevention and control through the use of the precautionary approach in water-quality management. As well as, the development and application of clean technology in the control of industrial waste discharge, through the application of precautionary measures derived from an extensive lifecycle analysis.¹⁶*
 - *Activities 19.14: Governments should work together with other related international organizations to Strengthen and expand programs on chemical risk assessment (IPCS: International Programme on Chemical Safety) within the United Nations system, UNEP (United Nations Environmental Programme), ILO (International Labour Organization), WHO (World Health Organization), FAO (Food and Agriculture Organization), and OECD (Organization for Economic Cooperation and Development), based on an agreed approach to data-quality assurance, application of evaluation criteria, peer review, and risk management activities, taking the precautionary approach into consideration.*
 - *Objective 19.48: The goal of this program area is to eradicate unacceptable or unjustified risks while also reducing the dangers caused by harmful chemicals to the degree that it is economically*

feasible, in which precautionary measures are based on a broad-based life cycle analysis are among the activities.¹⁷

- *Activities 22.5 ... (b) Encouraging the London Dumping Convention to accelerate the work on replacing the voluntary moratorium on disposal of low-level radioactive waste at sea with a ban, taking the precautionary approach into consideration. (c) disallowing the storage or disposal of high-level, intermediate-level, and low-level radioactive wastes near the marine environment unless they determine that scientific evidence, in accordance with the applicable internationally agreed-upon principles and norms, demonstrates that such storage or disposal has no unacceptable danger, and the precautionary approach is being applied appropriately.¹⁸*
- *Chapter 35 (Science for Sustainable Development) 35.3: ... Lack of complete scientific understanding should not be taken as an excuse to postpone activities that are justified in themselves. The precautionary approach could serve as a foundation for strategies involving complicated systems that aren't fully understood. Objective 35.6: The fundamental goal is for each country to determine the level of its scientific knowledge, as well as its research requirements and priorities, with the assistance of international organizations, as required, in order to make significant advances as quickly as possible, in: ... (c) The interaction between science and decision-making, using the precautionary approach, where necessary, to change the current patterns of production and consumption and to gain time to reduce uncertainty regarding the selection of policy options.¹⁹*
- e. ***Programme for the Further Implementation of Agenda 21 on 28 June 1997:*** According to Para 59 States should not encourage or permit the storage or disposal of high-, intermediate-, or low-level radioactive wastes near the ocean. They must decide that the scientific evidence, in accordance with internationally agreed-upon principles and norms, demonstrates that there are no unacceptable risks. While considering this evidence, the precautionary approach should be applied appropriately.
- f. ***Plan of Implementation, World Summit on Sustainable Development 2002:*** Art 23 aims to achieve by 2020, that chemicals are used and produced in ways that minimize substantial negative impacts on human health and the environment, using science-based risk assessment and risk management processes that take the precautionary approach into account. It also aims to assist developing countries in improving their capacity for chemical and hazardous waste management. In addition to Art 109 aims to enhance science-based decision-making and reconfirm the precautionary approach.²⁰

Guidelines to Apply Precautionary Principle Effectively:

Rosie Cooney & Barney Dickson (2012) proposed a set of guidelines to apply the precautionary principle effectively:²¹

a. Establishing the framework:

- *Integrating the Precautionary Principle explicitly into convenient legal, institutional, and policy frameworks for biodiversity protection and natural resource management.*

- *Incorporating the application of the Precautionary Principle with the application of other related principles and rights.*
- *Defining explicit and context-specific duties and practical measures for certain sectors and situations, as well as for certain conservation and management issues.*
- *Involving all related stakeholders and right holders in a comprehensive process of assessment, decision-making, and implementation.*
- *Making precautionary decisions based on the most up-to-date information, including human drivers of threats as well as traditional and indigenous knowledge.*

b. Defining the potential threats, options, and consequences:

- *Identifying threats and evaluating the uncertainties surrounding the ecological, social, and economic causes of conservation status changes.*
- *Determining the available options for dealing with prospective dangers, as well as the likely implications of certain actions and inactions.*
- *Assigning roles and duties for sharing information and proof of possible threat and/or safety based on who is proposing a possibly dangerous behavior, who benefits from it, and who has access to information and resources.*

c. Devising the appropriate precautionary measures:

- *Describing the precautionary measures that are being implemented, as well as the level of uncertainty to which the precautionary measures are responding.*
- *Taking the precautionary actions that are appropriate to the probable risk when implementing the Precautionary Principle.*
- *Taking into account the social and economic costs and benefits when implementing this Principle and finding ways to avoid or lessen negative consequences for the poor and vulnerable.*

d. Implementing effectively:

Unless severe prohibitions are needed, using a flexible management approach that includes the following key aspects: • controlling the effects of management or decisions based on agreed-upon indicators; • supporting research in order to eliminate major uncertainties; • ensuring that the outcomes of implementation are evaluated on a regular basis, lessons are learned, and the measures or decisions implemented are reviewed and adjusted as required; • creating a compliant system that is efficient and effective.

Conclusion

At the close, the precautionary principle plays a vital role in achieving sustainable development, because this principle aims to prevent environmental degradation through environmental measures in order to minimize the potential damage of environmental resources, as a result, future generations will have enough opportunities to meet their needs. Accordingly, this principle was stated explicitly in most international treaties on sustainable development, in which state parties stressed the necessity to base on this principle in environmental decision-making to fulfill sustainable development.

Bibliography:

- 1 Margherita Pieraccini & Tonia Noviz : *Legal Perspectives on Sustainability* , Bristol University Press, UK, 2020, p.17.
- 2 John Barry: *Environment and Social Theory*, 2 nd ed, Routledge, 2007, p.299.
- 3 United Nations, *World Summit on Sustainable Development: The Johannesburg Declaration on Sustainable Development*, 4 /9/2002, p.1.
- 4 Article 4, law No.03-10, relating to environmental protection within the framework of sustainable development, 19/7/2003, official gazette No.43.
- 5 Nada Milosavljevic & Jelena Simicevic: *Sustainable Parking Management; Practices, Policies, and Metrics*, 1st ed, Elsevier, 2019, pp.141-142.
- 6 Raffenberger C, Tickner J, eds.. *Protecting Public Health and the Environment: Implementing the Precautionary Principle*. Washington, DC: Island Press, 1999, P33.
- 7 Ellen Hey & David Freestone : *The Precautionary Principle and International Law: The Challenge of Implementation*, Kluwer Law International B.V. , London, 1996, p.55.
- 8 Nicolas Sadleir: *the implementation of precautionary principle approaches from the Nordic countries the EU and USA ; EU Marie Curie Chair on Risk and Precaution*; Oslo University , EARTHSCAN, London , 2007, P78.
- 9 Lucy Emerton et al. *Economic and the Precautionary Principle and Natural Resource Management: key issues, tools, and practices; Biodiversity and the Precautionary Principle; Risk and Uncertainty in Conservation and Sustainable Use* , Earth Scan, London , 2005, p.255.
- 10 Rosie Cooney: *The Precautionary Principle in Biodiversity Conservation and Natural Resource Management* , An issues paper for policy-makers, researchers and practitioners , IUCN, Gland, Switzerland and Cambridge, UK, 2004, P.6.
- 11 Rosie Cooney & Barney Dickson: *Biodiversity and the Precautionary Principle: Risk, Uncertainty and Practice in Conservation and Sustainable Use* , EARTHSCAN, LONDON, 2012, p5.
- 12 Joel Tickner et al. *The precautionary principle in action : A handbook* , 1st ed, Science and Environmental Health Network , 1999, pp.4-5.
13. Sumudu Atapattu: *Emerging Principles of International Environmental Law*, Transnational Publishers, USA, 2006, pp.277-278.
- 14 Jacqueline Peel: *The precautionary Principle in Practice; Environmental Decision Making and Scientific Uncertainty*, Appendix B *Treaties including the Precautionary Principle* , The Federation Press, 2005, pp.12-13.
- 15 United Nations: *UN Conference on Environment & Development Rio de Janeiro, Brazil, 3 to 14 June 1992: AGENDA 21*, pp:168-194, link: <https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf>, consulted on: 10/7/2021.
- 16 Ibid, p: 206.
- 17 Ibid, pp: 228-234.
18. Ibid, p: 268.
- 19 Ibid, pp: 311-312.
- 20 Jacqueline Peel: *Op cit*, pp: 15-16.
- 21 Rosie Cooney & Barney Dickson: *Op.cit*, pp 301-304.