

**Analysis of Precautionary Principle
Case Study of Enforcement of Environmental Laws in
Pakistan**



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CHAPTER – 1

INTRODUCTION

1.1 Background of the Study

Laws are essential in a society, and it creates a world that is suitable for a person to live in, but in making laws, world leaders must address specific issues that take a toll on society. An issue that has divided lawmakers or world leaders would be global warming. Global warming is an effect of the collection of carbon dioxide (CO₂) and other air pollutants in the atmosphere; instead of the sunlight and the solar radiation bouncing off the Earth's surface, it remains trapped in the atmosphere that causes the planet to get hotter, which then prompts the greenhouse effect.

Global warming has numerous side effects globally, but one of the main effects is the increasing warmth worldwide. Scientists have measured the temperature since the 1800s and deduced that the global annual temperature is rising 0.18 degrees Celsius or 0.32 degrees Fahrenheit per decade. Due to the industrial revolution, which created a toll on our environment, environmental issues are rising. Impoverished third-world countries are suffering more than those in the first world. Some territories displaced hundreds of thousands of people and destroyed agricultural lands because of the floods and other effects of global warming on their lands. Global warming made human beings and animals suffer; global warming damage the ecosystems, which resulted in animals losing their homes and slowly getting extinct.

With all the turmoil happening globally, lawmakers wanted to create laws and regulations to protect the environment and the people. Lawmakers created the Rio Declaration, 1992 principle 15. This principle that slowly turned into law states that *"For the purpose of protection of environment, all the states must apply the precautionary principle in line with their capabilities. In cases of concerns of irreversible or grave damages, absence of complete scientific certainty must not be employed as a justification for dismissing economical steps for curbing damage to the environment."*

This 1992 principle follows the precautionary principle, which is a guide for lawmakers or people, in general, to help them take actions that would help prevent future events that are societally undesirable. In 2005 UNESCO simplified the precautionary principle and defined it as: *"In cases where actions of humans have the potential for causing morally unacceptable damage, which may be scientifically possible, yet unconfirmed, measures must be taken in*

*order to prevent or remove that damage. The judgment of the possibility, may be based in the scientific analysis. Measures are actually interventions which are carried out prior to the occurrence of damage and aim to eliminate or prevent harm. Those measures may be put in place that are in line with the significance of the potential threat, taking into account all the negative and positive results, and considering the moral implications of both inaction and action."*¹

One of the countries that are suffering because of the actions in the past would be Pakistan. Even if the country has taken several restoration projects like the 10 billion tree-planting drive, this is not enough to console the damage that has been done to the country. The country has instituted the Environmental Protection Act of 1997. The Environmental Protection Act of 1997 dictates that the government would be following the precautionary principle to protect the environment and regulate the laws for the country.

1.2 Statement of the Problem / Research Questions

The research acknowledges that the government of Pakistan is doing its best to amend Global Warming issues that affect the country. This study wants to further analyze the precautionary principle in terms of connecting it to the superior courts of Pakistan by identifying if the contextual problem is answered. These statement questions would indicate if the government of Pakistan used the precautionary principle for its higher purpose. The study seeks to discover if the analysis of the precautionary principle created an impact in the superior court of Pakistan by its interpretation and application. The precautionary principle was used in various studies and how effective it was; studies like "Environmental Protection and the "Precautionary Principle": A Response to Scientific Uncertainty in Environmental Management," conducted by Warwick Gullett of Australian National University, will provide insights into the researcher to develop a better understanding of the principle at hand would help the researchers understand the depths of the policies of the government of Pakistan.

1. What would be the methods used to identify if the Superior Courts of Pakistan used the precautionary principle for its higher purpose?
2. How did the Precautionary principle change the environmental scene in Pakistan?
3. Did the Precautionary principle work in the superior courts of the country?

¹ World Commission on the Ethics of Scientific Knowledge and Technology & United Nations Educational, Scientific, and Cultural Organization. (2005). *The Precautionary Principle*. Unesco.Org. <https://unesdoc.unesco.org/ark:/48223/pf0000139578>

1.3 Significance of the Study

This study is to help students and citizens of Pakistan understand the concept of the precautionary principle in terms of the environmental aspects. It would help people be more aware of their behavior when it comes to the pressing issues of the environment. At the same time, this study wants to relate the precautionary principle in the superior courts of Pakistan by letting people understand that any action that they do would contribute or prevent them from causing harm not only to the environment but also to themselves. It will dive deeper into knowing if the consequences transpire appropriation towards the country's greater good.

Since not many people are aware of the precautionary principle, this research would spread awareness and understand the pressing governmental issues globally. The researchers would also want to know how extensive the Precautionary Principle applies to the surging changes of the country's frameworks.

1.4 Scope and Limitation

The scope and limitation of this study focus mainly on identifying the Analysis of the Precautionary Principle's interpretation and application by the superior court in Pakistan. The proponents would interpret the judicial application of the Precautionary Principle under the courts' cases and legislation.

- The study's scope limits the correlation of the principle and how the superior courts applied it to the government of Pakistan and would have an in-depth assessment of the country's environmental policies.
- The study would also scope the lawmakers' internal dynamics and processes when discerning the precautionary principle.
- This study would address the material and rationale of the precautionary principle, trying to divulge on its establishment from an non-controversial product of common sense all the way to its development into a astonishingly powerful norm of decision-making.

- Despite the extensive research aiming at the normative content and operation of the country, the study will not limit itself to the application that entails fundamental definitional challenges as well as its overall limitations as a regulatory tool.
- This paper would also explore the precautionary principle in relation to the Pakistan superior courts and their international law.
- The paper would use various legal instruments and conditions that would supplement and note how the precautionary principle is included in most environmental protection policy documents and international treaties.

Definition of Terms

1. Precautionary Principle

- "In cases where actions of humans have the potential for causing morally unacceptable damage, which may be scientifically possible, yet unconfirmed, measures must be taken in order to prevent or remove that damage. The judgment of the possibility, may be based in the scientific analysis. Measures are actually interventions which are carried out prior to the occurrence of damage and aim to eliminate or prevent harm. Those measures may be put in place that are in line with the significance of the potential threat, taking into account all the negative and positive results, and considering the moral implications of both inaction and action"

2. Global Warming

- A gradual rise in Earth's atmosphere's overall temperature level which is usually a result of the greenhouse effect as a consequence of rise in levels of chlorofluorocarbons, carbon dioxide and other such pollutants.

3. Greenhouse effect

- It is a phenomenon where the earth's lower atmosphere traps sun's heat as a consequence of higher transparency of the atmosphere of earth to sun's detectable radiation than the infrared radiation emitted from the surface of earth.

4. Superior Courts

- Superior courts is a term used for trial courts. A superior court or a trial court judge or often a jury considers evidence and hears testimonies to decide a case in accordance with the law and facts from the case.

5. Pakistan Environmental Protection Act, 1997

- The said act mainly forms provisions to administer issues impacting the environment and to some extent, to conduct an environmental impact assessment and for the handling and disposal of hazardous materials. The Act also performs the action of defining environmental offenses and designing penalties for the relevant offenses.

6. Carbon Dioxide (CO₂)

- Carbon dioxide is a gas, which at standard pressure and temperatures stays non-flammable and colorless. Though it is present in only a minimal amount in comparison to other gasses like oxygen and nitrogen in the atmosphere of Earth, it still remains a vital element of earth's air. A molecule of carbon dioxide is formed of two oxygen and one carbon atom.

7. Environment

- Environment can be defined as the conditions, circumstances or objects that surround you by the complex of chemic, physical and aspects (like life form, climate as well as soil) which have an impact on organism or ecological community and eventually decide its type as well as life.

8. Global Temperature

- Global temperature is defined as a measure of heat or cold that is expressed in terms of numerous arbitrary scales and also indicates the direction of the flow of heat energy spontaneously – for example, from a hot body to a cool body.

9. Solar Radiation

- Solar radiation, also known as solar resource is a common term used that refers to electromagnetic radiation released by Sun. This radiation can be

stored and converted to useable forms of energy like electricity and heat by employing numerous technologies.

10. A country's framework

- It is a structure that is built by collection of economic data, social data, and its analysis and processing and the national accounts and the balance of payments and their economic analysis.

1.5 METHODOLOGY

The Precautionary Principle is used as a guideline to make better decisions for environmental policies. According to Kriebel, et al (2001)², The precautionary principle comprises of four key elements “in uncertain situations, preventive steps must be taken, where the burden to prove otherwise is put on the proponents of an action in question, exploring numerous alternatives to potentially hazardous processes, and enhancing the participation of general public in the process of decision making.”

In this study, the researcher will assess if the Precautionary Principle has been effective in the decision and policy making of certain environmental cases that took place in Pakistan. Aside from that, the researcher will also evaluate cases that didn't use Precautionary Principle and will suggest how the said guideline could have helped in making better decisions and strategies.

As mentioned, there are three questions that this research aims to answer. (1) What would be the methods used to identify if the Superior Courts of Pakistan used the precautionary principle for its higher purpose?; (2) How did the Precautionary principle change the environmental scene in Pakistan?; and (3) Did the Precautionary principle work in the superior courts of the country?

In order to reach answers to these research questions, the researcher will apply a qualitative methodology. This qualitative method includes searching for different environmental cases in Pakistan that are divided into two classifications: cases that used the Precautionary Principle and cases that did not use the Precautionary Principle.

For cases that used the Precautionary Principle, three central information will be presented and evaluated in this research: (1) The summary of the case; (2) Methods used to identify if the Superior Courts of Pakistan used the Precautionary Principle for its higher purpose; and

² Kriebel, D et al (2001). The Precautionary Principle in Environmental Science. *Environmental Health Perspective*. DOI: [10.1289/ehp.01109871](https://doi.org/10.1289/ehp.01109871)

(3) How did it change the environmental scene in Pakistan and was the application of the precautionary principle for the greater good.

To assess if the Precautionary Principle has been effectively used in these cases, the researcher will base on the guideline established by the International Union for Conservation of Nature that was approved during the 67th meeting of the IUCN Council in 2007. According to the IUCN, these guidelines are meant “*to offer help in the implementation of the Precautionary Principle for the preservation of natural resources and biodiversity.*”

The IUCN issued twelve guidelines to help with the application of the Precautionary Principle from effective framework construction to defining threats, risks, and consequences to proper implementation. The guidelines are as follows:

“Guideline 1: Implement the Precautionary Principle in its soul and spirit in the fitting institutional, policy, and legal framework for the management of natural resources and preservation of biodiversity.

Guideline 2: Couple the implementation of the Precautionary Principle with similar and concerned other laws and principles.

Guideline 3: Establish thorough context-specific operational steps and obligations regarding specific context and sectors, and regarding particular management and conservation issues..

Guideline 4: Invite every concerned rights holder and stakeholder in a very clear evaluation process, application and decision-making.

Guideline 5: Form the foundation of precautionary decision taking on the most reliable scientific data, which may include data related to human drivers of potential dangers, and indigenous as well as indigenous learning.

Guideline 6: Depict the potential dangers and evaluate the unreliabilities around the economic, ecological and social elements of change in preservation status.

Guideline 7: Recognize the possible steps to tackle possible dangers and evaluate the possible consequences of the possible measures as well as inaction.

Guideline 8: Assign responsibilities and roles for arranging proof and data of possible threat regarding the proposer of a possibly damaging act, its beneficiaries and those who retain access to resources and data.

Guideline 9: Declare the precautionary steps being implemented and explicitly state the uncertainty that the concerned precautionary measures respond to..

Guideline 10: *In the application of the Precautionary Principle take on steps that are significantly proportionate to the possible dangers.*

Guideline 11: *Take into account the financial and social implications and benefits in application of the Precautionary Principle and in scenarios where measures may put a negative impact on the weak and poor, find means to avoid or eliminate these issues.*

Guideline 12: *Until stern bans are needed, employ an adaptive managerial policy, including the following key components: (1) analyzing the consequences of actions founded on universally agreed indicators; (2) promote scientific research in order to curb major uncertainties; (3) ensure time to time assessment of the impacts of implementation, to draw lessons and analyze and adjust where needed; and (4) develop an effective and active system of compliance.*

Lastly, for the cases that didn't utilize the Precautionary Principle, the researcher will present and evaluate the following information: (1) the Summary of the case; (2) the reason why it should have used the Precautionary Principle; and (3) recommendations.

1.6 Literature Review

Both primary and secondary sources have been tapped, to secure breadth as well as depth of knowledge. The literature studied is theoretical and practical. In the Environmental rights Revolution; A Global Study of Constitutions, Human rights and the Environment, David Boyd one of Canada's leading environmental lawyers, answers this question by moving beyond theoretical debate to measure the practical effects of enshrining the right to a healthy environment in constitutions of most of countries. The basic requirement is the implementation of Green Court's decisions. This quite work sourcebook on Environmental Law by Maurice Sunkin, David M ONG and Robert Wight provides an extremely valuable international, domestic resource of environmental law. In particular, at the international level there is now consideration of the Kyoto Protocol-1997, the Aarhus Convention 1998, the Basel Protocol 1999 and the Biosafety Protocol

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CHAPTER - 2

Implementation and Enforcement of Environmental Laws in Pakistan

2.1 Global Warming in the World

Global warming is inevitable as the climate cannot be controlled by humans. However, in the present time, global warming has been rapidly progressing. This is due to the increased

carbon dioxide (CO₂) in the atmosphere (Kasotia,n.d.)³. Fossil fuel is the top contributor to the increase of CO₂ as it is mainly used in the everyday lives of humans. Some of which include electricity used in homes, gas used in cars, and power used in factories.

This issue has been affecting the lives of every human, even though its impact has not been fully experienced. Most of the effects of global warming are felt by developing countries, as the temperatures continue to rise. The heatwaves significantly reduce the capacity of tropical countries to resist infectious diseases, hence, malaria and other infectious diseases thrive in hot temperatures.

Hossain (2019)⁴ stated that another effect global warming may bring to developing countries is food scarcity. Some countries experience drought while others experience flooding which has impacts on their agriculture. Consequently, it is estimated that crop productivity will decline by half in developing countries (Kasotia,n.d.)⁵. Food supply may not be sufficient to meet the needs of their entire population as a result.

Global warming is not only causing health risks and food scarcities for developing countries, but it also threatens their economies. They are forced to cut off their greenhouse gas emissions which is a result of economic development. Therefore, their economic development is compromised since factories are limited from producing. This is unfair for developing countries because developed countries are the top contributors to global warming. The industrial revolution intensified their emissions of greenhouse gases.

Essentially, the people of developing countries are affected in every aspect of their lives. There are also numerous risks of infectious diseases caused by high temperatures. It is resulting in rising sea levels because of the melting of glaciers which expose ancient diseases as well. Rising sea levels are causing flooding in Pakistan as their primary source of water comes from the Himalayan glaciers.

In Pakistan, there are four seasons even though it is a primarily arid country. Rainfall and Himalayan glaciers are key sources of water in their country. Over the last decade, Pakistan has been among those countries that were greatly affected by global warming. They are vulnerable to flooding caused by rising sea levels as a result of melting glaciers due to high temperatures.

³ Kasotia, P. (n.d). *The Health Effects Of Global Warming: Developing Countries Are The Most Vulnerable*. Retrieved from <https://www.un.org/en/chronicle/article/health-effects-global-warming-developing-countries-are-most-vulnerable>

⁴ Hossain, K.A. (2019). Global Warming and Impact on Third World Countries. *Proceedings of the 2nd International Conference on Industrial and Mechanical Engineering and Operations*

⁵ Kasotia, P. (n.d). *The Health Effects Of Global Warming: Developing Countries Are The Most Vulnerable*. Retrieved from <https://www.un.org/en/chronicle/article/health-effects-global-warming-developing-countries-are-most-vulnerable>

Climate change has left a severe impact in Pakistan, ranging from short to long-term effects. In addition, the temperature in Pakistan is steadily increasing, varying from 0.6 to .10 C per year. Their country is experiencing drought and flooding as a result of the long-term and uncontrollable effects of global warming. The Pakistani population has suffered from economic changes, which have affected their agriculture and everyday lives.

Finding a more sustainable fuel source can reduce Pakistan's CO₂ emissions (Daim et al., 2015)⁶. On the contrary, Pakistan's contribution to overall CO₂ emission is very little which should not affect their climate. Their economy would benefit from this, as well as their climate. Pakistan, however, has been the most seriously affected by the huge CO₂ emissions from other countries.

In reality, droughts and floods are natural disasters that even the most developed countries cannot control. Increasing emissions by other countries have resulted in worsened frequency and intensity of these natural disasters. This has been felt by the Pakistani in the last decade with their water supply. Since their rivers are supplied by the Himalayan glaciers, they have been decreasing each year.

Pakistan has been experiencing the effects of global warming for some time now. The situation will only worsen with time.

2.2 The Precautionary Principle

The classical Hippocratic oath is famous for the saying "I will keep them from harm and injustice," and one of its interpretations is the statement "First, do no harm." The precautionary principle is a modern iteration of this statement (Hanson, 2017)⁷. However, the primary difference of the precautionary principle is that it is more than a mandate for individual actions. The precautionary principle serves to guide a more extensive scope as a dictum for the behavior of institutions and even nations. Moreover, the precautionary principle is not limited to human health, unlike the Hippocratic oath and its other modern counterparts. The mentioned principle also governs the health of the environment.

The roots and origins of the precautionary principle date back to the early 1970s. Back then, there existed *Vorsorge*, a precautionary principle of foresight. During the 1980s, numerous international treaties endorsed preventative measures for the sake of the environment. One of

⁶ Daim, T., Kim, J., Iskin, I., Abu Taha, R., & van Blommestein, K. (2015).

⁷ Hanson, J. (2017). *Encyclopedia of the Anthropocene*. Elsevier.

which is the 1987 treaty, which bans the North Sea dumping of hazardous substances (Gollier and Treich, 2013)⁸.

Another well-known statement of the precautionary principle is the 15th principle of the 1992 Rio Declaration on Environment and Development. This principle states, “In instances of chances of irreversible or grave loss, absence of scientific certainty must never be employed as an excuse for dropping cost-effective steps to curtail environmental degradation.” (United Nations, 1992)⁹

Over the years, there have been numerous proposed interpretations of the precautionary principle. However, its principal meaning is clear among nations. Fundamentally, the precautionary principle rejects the justification of inaction with uncertainty. Moreover, the precautionary principle aims to urge policymakers to act in anticipation despite the presence of scientific uncertainty (Gollier and Treich, 2013).¹⁰

Multiple conventions, treaties, and protocols proposed a similar meaning for the precautionary principle. These are the 1992 Convention on Biological Diversity, 1992 Convention on Climate Change, 1992/93 Maastricht Treaty, and the 2000 Cartagena Protocol on Biosafety (Gollier and Treich, 2013). Furthermore, the French Constitution included the precautionary principle in 2005. This inclusion in the Constitution indicated the manifestation of the precautionary principle at the highest judicial level of France.

Since 2000, the European Commission has been using the precautionary principle as one of its guiding principles. The Commission states that the measures consistent with this principle should be:

“proportionate to the selected point of protection, un-prejudiced in its function, in line with alike steps adopted in the past, built on a study of commonly possible pros as well as consequences of action or the absence of action (counting, where viable and fit, a financial benefit/expense review), on condition of analysis, considering the novel scientific information, and able of granting charge for arranging the scientific proof

⁸ David Alary & Christian Gollier & Nicolas Treich, 2013.

"The Effect of Ambiguity Aversion on Insurance and Self-protection," *Economic Journal*, Royal Economic Society, vol. 123(12), pages 1188-1202, December.

⁹ United Nations. (1992). Report of the United Nations Conference on Environment and Development. A/CONF.151/26 Vol. 1.

¹⁰ David Alary & Christian Gollier & Nicolas Treich, 2013.

"The Effect of Ambiguity Aversion on Insurance and Self-protection," *Economic Journal*, Royal Economic Society, vol. 123(12), pages 1188-1202, December.

needed in order to have a detailed threat evaluation.” (Global Research Development Center, 2000)¹¹

With this, there are two fundamental classifications of precautionary principle formulations (Hansson, 2009)¹². The first group is the argumentative version. An example of this is the Rio Declaration Principle 15. This formulation advised pushing through economical to prevent environmental downfall, even when there is a lack of scientific certainty.

On the other hand, the prescriptive versions prescribe actions according to the precautionary principle. One of the most famous examples of this formulation is the Wingspread Statement. A direct quote from Raffensperger et al. (1999)¹³ says that: “In instances where any activity poses risk for human or environmental health, it is vital to take precautionary steps, even in situations where the cause-and-effect connection is not completely scientifically clear” (pp. 354-355).

According to Sandin (1999)¹⁴, there are four components to most prescriptive versions of the precautionary principle. These are the threat component, the uncertainty component, the action component, and the prescription component.

Hansson (2009)¹⁵ provided the following statement as an example: Imperative it is to put a cap on, regulate or curb possibly harmful technologies even if a strong scientific proof is yet to be established. In this formulation, the threat component is in the phrase “potentially dangerous technologies.” On the other hand, “even before a scientific proof is established” indicates the uncertainty component of the formulation. These components summarize the triggers of the precautionary principle.

Moreover, the phrase “to limit, regulate, or prevent” indicates action, and “is mandatory” expresses prescription. These two components convey the precautionary response of the prescriptive formulation (Ahteensuu, 2008)¹⁶.

The most characteristic part of a precautionary principle prescriptive formulation is the uncertainty component. This clause ensures that the body takes action despite the absence of established scientific evidence. This clause differentiates the precautionary principle

¹¹ Commission of the European Communities, *Communication from the Commission on the Precautionary Principle*, February 2, 2000.

¹² Hansson, S. O. (2009). *Philosophy of Technology and Engineering Sciences*. Elsevier.

¹³ Raffensperger, C., Tickner, J. A., & Tickner, J. (1999). *Protecting Public Health and the Environment*. Island Press.

¹⁴ Sandin, P. (1999). Dimensions of the Precautionary Principle. *Human and Ecological Risk Assessment: An International Journal*, 5, 889–907. <https://doi.org/10.1080/10807039991289185>

¹⁵ Hansson, S. O. (2009). *Philosophy of Technology and Engineering Sciences*. Elsevier.

¹⁶ Ahteensuu, M. (2008). The Precautionary Principle and the Risks of Modern Agri-Biotechnology. In *Genetic Democracy* (pp. 75–92). Springer Netherlands. http://dx.doi.org/10.1007/978-1-4020-6212-4_7

formulation from other argumentation principles and forms regarding the environment and health protection.

2.3 Interpretation of Precautionary Principle

The Precautionary Principle is applied differently in different countries and organizations. It primarily serves as a guiding tool for resolving a variety of issues. Several works of literature and works have interpreted the principle in relation to a wide range of societal topics, issues, and concerns.

The Precautionary Principle was defined in the context of environmental welfare in some literature. The IUCN's Recommendation for Implementing the Precautionary Principle on Biodiversity Preservation and Natural Resources Management defines the principle as an assertive principle which asks those in power to put the muscle of science and technology, decision-making, and economic production in the service of new methods of living that risk less harm to health (IUCN, 2007)¹⁷.

The study by Bazarco discussed the Stockholm Conference, which paved the way for the introduction of many principles that are now generally recognized around the world, including the Precautionary Principle. In his article, he stated that, while the principle is known in both national and international courts and legislation, its understanding and application are still evolving, because it can act as both an impediment to development and a tool to protect the environment (Bazarco, 2018)¹⁸.

According to Gill's article, the definitions and applications of the principle vary across the range of key environmental factors that have a continuous role in the resolution or presentation of issues related to environment. As stated in Durbin's article, the principle is interpreted as a strategy for ensuring effective defense of the environment of sea from harmful actions, particularly those involving the use of marine resources.

Similarly, the World Health Organization Europe interprets the principle as a roadmap to help evaluate the impact of activities of humans offers a roadmap to safeguard humans and other forms of life as well as life-sustaining ecological systems at present and for future as well (World Health Organization, 2004).¹⁹

¹⁷ International Union for Conservation of Nature (2007). Guidelines for Applying the Precautionary Principle to Biodiversity Conservation and Natural Resource Management.

¹⁸ Pinto-Bazarco, Jose. (2018). Remarks of Jose Felix Pinto-Bazarco. Proceedings of the ASIL Annual Meeting. 112. 235-236. 10.1017/amp.2018.18.

¹⁹ World Health Organization. (1997, September 3). *Pakistan Environmental Protection Act (PEPA), 1997*. Wwww.Who.Int. https://www.who.int/fctc/reporting/Pakistan_annex2_environmental_protection_act1997.pdf

Wallace's work interprets the principle as a useful tool for determining whether to proceed with emerging technologies, chemicals, or operations. According to the article, the ultimate aim of precaution is prevention of harm, curtail growth, and to build a foundation for sustainable future for future generations (Wallace, 2004)²⁰.

Doerr-MacEwen and Haight, on the other hand, argue that the absence of description of the precautionary principle is an advantage because it allows it to be tailored to specific situations, such as pharmaceuticals in the environment. Experts were generally supportive of the precautionary principle based on the results of their interview regarding the application of the principle to pharmaceuticals (MacEwen & Haight, 2005).

The principle is interpreted in some literature in terms of health concerns. The paper by Kriebel and Tickner, for example, interprets the Precautionary principle as a type of key deterrence, to avoid trouble by sidestepping engagement in activities till we are pretty sure that no harm will be caused in the process. Said paper emphasized that public health professionals must recognize the importance of precautionary measures (Kriebel & Tickner, 2001).

Beloin's paper also addressed the use of the precautionary principle in public health. It was stated that the principle was most explicitly developed by and through the development of environmental risk management policies, and that it has been used in this public policy domain for a number of years (Beloin, 2009)²¹.

Scott's briefing interprets the precautionary principle as the founding idea that an ounce of prevention is better than a pound of cure. It demands that significant measures be taken in scenarios where scientific evidence of a potential threat to human life or health or the overall environment is not completely indisputable, as stipulated in the Treaty on the Functioning of the European Union (Scott, 2018)²².

There are also legal interpretations of the principle in the literature. One of these is Osimani's paper, which analyzed the principle and interpreted it as a norm that modifies the usual rule that a correlation is to be established before any power or the may impose oppressive constraints on an agent's activity. He went on to say that it is generally not a loss or upsetting

²⁰ Hayes, A. Wallace. (2005). The Precautionary Principle. *Arhiv za higijenu rada i toksikologiju*, 56. 161-6.

²¹ Valérie Beloin, *Public Policies Guided by the Precautionary Principle* (Quebec: National Collaborating Centre for Healthy Public Policy, 2009)

²² Joanne Scott. 2018. "Decision Irrationalities Involving Deadly Risks," *Journal of Risk and Uncertainty*, 57(3)

model because it has no effect on the utility function associated with the decisions that is being considered (Osimani, 2012)²³.

Deloso's thesis seeks to comprehend the principle under international conventional law, particularly its application to the climate change issue. The first section of the paper argues that the precautionary principle is an important doctrine in international common law (Deloso, 2005)²⁴. Meanwhile, the European Commission's brief interprets the principle as a tool to effectively understand vagueness and issues in high-stakes decision-making, rather than as a fixed or universal rule.

Van der Sluijs' presentation interpreted the Precautionary principle as a stimulant and navigation system for advancements, rather than a break. He went on to say that the Precautionary Principle is not the same as "prevention," which deals with known risks, whereas Precaution deals with unknown risks (Sluijs, 2020)²⁵.

Peel's work discussed how precaution must not demand those in power to gain the unaccomplishable and take the correction step ahead of time, irrespective of doubts. Instead, the international community's finest opportunity of preventing grave degradation of environment in future is to impose certain procedural constraints on supervisory policymaking that are built for ensuring scientific certainty (Peel, 2004).

The emergence of the precautionary principle, as mentioned in Stein's paper, is one of most notable improvements over the last decade, and presumably among the most substantial in the onset of international environmental law itself. He clarified that the principle by no means is neither radical nor final, and it doesn't put a ban on any activity until a clear scientific logic is available (Stein, 2000)²⁶.

Meanwhile, Peterson's article stated that incorporating the principle into an efficient regulatory process aids in making sure that transparency is maintained in decision making, the decisions are consistent and are held accountable.. It was also stated that this decision-making framework will aid in avoiding many of the potential issues that may arise from the application of the principle (Peterson, 2006)²⁷.

²³ Osimani, Barbara. (2012). Risk information processing and rational ignoring in the health context. *The Journal of Socio-Economics*. 41. 10.1016/j.socec.2011.10.009.

²⁴ Rabbi Elamparo Deloso, "The Precautionary Principle: Relevance in International Law and Climate Change", Lund University, 2005

²⁵ van der Sluijs. 2020 Post-normal pandemics: Why CoViD-19 requires a new approach to science. *Recenti Progressi in Medicina*, 111(4).

²⁶ Stein, Paul. "A Cautious Application of the Precautionary Principle." *Environmental Law Review*, vol. 2, no. 1, Mar. 2000, pp. 1-10,

²⁷ Peterson, M. (2006), The Precautionary Principle Is Incoherent. *Risk Analysis*, 26: 595-601.

2.4. 1 History of Environmental Law in Pakistan

All disciplines of science, research and laws regulating environmental issues have been subject to significant developments since the world War II. Stockholm hosted the first ever United Nations Conference on Human Environment in the year 1972. Pakistan was also part of this conference and was a signatory of the Stockholm declaration that was latter considered as the first primary paperwork of the world's environmental law to recognize human's right to secure environment. As a result, law makers from Pakistan acknowledged the growing international concern on environmental issues and included the issue of ecology and environmental pollution in the 1973 Constitution's Concurrent Legislative List¹⁰. The environmental and Urban Affairs institution was developed in the Ministry of Housing & Work at the Federal level in the year 1974.²⁸ An independent Environment Ministry was launched in Rules of Business of government of 1975 while Environmental Pollution Control Organization was established in Punjab Government's Public Health and Engineering Department.²⁹ After the addition of ecology and environmental pollution in Constitution's Concurrent Legislative List, the Federation bagged the legislative and executive jurisdiction on these issues. As a result, in the year 1983, exercised his legislative authority awarded by Constitution's Article 89 to promulgate the 1983 Pakistan Environmental Protection Ordinance short named PEPO. The PEPO aimed at offering conservation of living environment, pollution control and related issues.³⁰ The PEOP also developed Pakistan Environmental Protection Council in position of chief policymaking organization for the environmental problems and was awarded the authority to form National Environment Quality Standards which is supposed to be executed by the country's Environment Protection Agency. The PEOP can be credited for the launch of Pak-EPA as well as the Pakistan Environment Protection Council in 1983 while in 1992, a Director General was appointed for the Pakistan Environmental Protection Agency.³¹ The year 1993 saw the establishment of Pakistan Environmental Protection Council (procedure Rules as well as the initial National Environment Quality Standard for 1) industrial gaseous emissions; 2) liquid industry waste and 3) automobile noise and exhaust were released.³² The year 1994 saw an amendment to PEOP to change the chairmanship of Pakistan environmental Protection Council to replace Pakistan's President with the country's Prime Minister. Despite the fact that PEPO never developed or had mention of a provincial environmental protection agency the year 1987 to 1995 saw the establishment of Provincial Environmental Protection Agencies.³³ The issue lacks clarity as to under which legal powers did PEPO issued the notification for the development of these agencies. The practicing of judicial powers by the parliament on the issues of ecology and environmental pollution doesn't devoid the four provinces of the country, of their legislative or executive powers over these issues. Constitution's article 137 defines the executive powers of the Provinces to extend to issues regarding which they have

²⁸ Mujahida Maureen, "Development of Environmental Institutions and Laws in Pakistan", Pakistan Journal of History and Culture, Vol XXX, No. 1 (2009) p. 92, at p. 95 available at

http://www.nihr.edu.pk/Latest_English_Journal/Development_of_Environmental_Institutions.pdf

²⁹ History of the Environment Protection Department of the Government of Punjab, from the website of the same, available at <http://epd.punjab.gov.pk/history>

³⁰ Preamble of the Pakistan Environment Protection Ordinance, 1983.

³¹ Tariq Banuri, "Implementation of the Environmental Protection Ordinance" SDPI Policy Paper Series #4 (1993), at p. 1 available at: <http://www.sdpi.org/publications/files/P4-Implementation%20of%20the%20Environmental.pdf>

³² SRO 742(I)/93 dated 24 August 1993 issued by the Environmental and Urban Affairs Division (Pak-EPA) after prior approval of the Pakistan Environmental Protection Council

³³ History of the Environment Protection Department of the Government of Punjab, Ibid., at p. 101.

the power to form laws, which includes issues included, before the 18th Amendment, in the Constitution's concurrent Legislative List. Since ecology and environmental pollution were included in the pre-18th Amendment Constitution's Concurrent Legislative List, the country's Provinces have the legislative as well as executive authority on these subjects. However, as later detailed in Constitution's Article 137 of Pakistan's Constitution, Provinces' practicing of executive powers is conditional based on executive powers awarded by the PEPO to the country's Federation. Post promulgation of the PEPO in the year 1985, Punjab province had asked the country's Federal Govt to award the Pakistan Environment Protection Agency's powers to Punjab Government's Housing and Physical Planning Department.³⁴ As a result, the Environmental Protection Agency of the Punjab was established in 1987 in the form of an attached department, with the Department of Housing, Environment & Physical Planning of Punjab Government practicing administrative control over it. The already present Directorate and official staff of the established Environment Pollution Control Agency was moved to newly established Punjab's Environment Protection Organization.

It might serve to mention again that PEPO doesn't have any concept of environmental protection agencies on provincial level, however it does acknowledge a commission, department, board office, division, bureau or any unit of the Province's Government to act as an governmental organization to which the Pak-EPA could award any or portions of the PAK-EPA's authority following the Ordinance in question.³⁵ That being said, year 1987's notification does not delegate authority of Pak-EPA to Punjab's environmental Protection Agency and we are not clear on if Pak-EPA actually did ever delegate any such authority under the PEPO to Punjab's Environmental Protection Agency. Province of Punjab's Environment Protection Department was developed; through alteration to Government Rules of Business of Punjab via a Notification in the year of 1996. Therefore, in very first half of the 1990s, Pakistan's environmental laws were governed by PEPO as well as the organizations and structures it established alongwith Pakistan-EPA exercising its National Environment Quality Standards countrywide. Having such laws, and structure of environmental protection, Pakistan took part in the United Nation's convention on the issue of Sustainable Development that took place in 1992 in Rio de Janeiro, Brazil. Pakistan signed the Rio Declaration of 1992.³⁶ Pakistan's Supreme Court in year 1994 in its verdict in the *Shehla Zia versus WAPDA* gave birth to completely renewed era of laws regarding environment in Pakistan. It was a first in the history of the country that the Supreme Court acknowledged the right of the citizens to a healthy and clean environment as a component of the Fundamental Rights to Life as guaranteed in the country's Constitution. The Supreme Court also acknowledged the fact that the Right to Life makes the State bound to preserve it in a way that is different from the regular Fundamental Rights. The court set the principle that

³⁴ History of the Environment Protection Department, *supra*.

³⁵ Section 6(2)(d) of the Pakistan Environmental Protection Ordinance, 1983.

³⁶ PLD 1994 Supreme Court 693

the State shouldn't be waiting for the breach of a Fundamental Rights to Life to occur or for it to be brought to notice, instead the State is bound to stay vigilant of any such possible violations. Moreover, the Supreme Court also acknowledged that although the country has signed yet not ratified the Rio Declaration, however, it sure has a persuasive value and has to be respected. To be precise, the Supreme Court recognized that the Principle number 15 envisions the decree of prudence as well as precaution so therefore did as well include Precautionary Principle in the country's law. The acknowledgement of a healthy and clean environment as an integral element of Fundamental Rights to Life guaranteed by the Constitution, has an enormous impact on the environmental laws in the country. Above all, it was declared that Fundamental Rights in no way are similar to any seemingly similar statutory human right. Fundamental Rights always have been given an elevated and vital place in laws. These Fundamental Rights can't be rescinded or taken back in situations other than Constitutionally mandated notifications of emergencies. Moreover, the defenses awarded by the Fundamental Rights cannot be reduced or altered via subsequent legislation. Any attempt to take such an action can easily be challenged in the Supreme Court of the country that has the Constitutional Authority to dissolve any laws that violate the Fundamental Rights of the citizens. Considering this history of the country's being a signatory of the Rio Declaration and the novel statutes of environmental and constitutional laws acknowledged at Pakistan's Supreme Court, Pakistan's Parliamentary power released Environmental Protection Act of Pakistan, in year 1997. The below segment of the thesis aims to explore the features of said Act as well as regulations plus laws formed under its umbrella.

2.4. 2 Environment Protection Act of Pakistan (1997)

The EPA ensures full safety, preservation, restoration as well as environmental enhancement for inhibition and pollution curbing, and promoting viable development.³⁷ It furthered the issues of environment that were addressed in the previous PEPO and additionally have the components of Rio Declaration's principles. Environment is described by the Act as as air, land and water; every layer of our atmosphere, every sort of inorganic or organic material and all sorts of life; the ecological relationships and eco system; structures, erections, boulevards, services as well as work; every community as well as monetary situations affecting social existence"; also inter-connection among all or any of already mentioned aspects. Also the discussed Act describes a sustainable development to be any sort of growth which fulfills any requirements of a current generation sans any compromises on the²² capability of the

³⁷ Preamble of the Pakistan Environmental Protection Act, 1997.

generations of the future to fulfill their requirements.. The PakEPA was supposed to be developed by Pakistan's Federal Government for the enforcement of National Environmental Quality Standard (NEQS) that were passed by PEPC in addition to practicing a range of authorities and functions according to the Act (Sections 5-7). The Governments of Provinces were to develop Provincial Agencies via notifications to practice the said authorities and to carry out the roles that may be awarded to them (Section 8). The Federal Government had been given the authority to give any of the Pakistan-EPA's authorities as well as roles in umbrella of Rules & Regulations & Acts formed in its umbrella to the concerned local council, Governmental Agency, concerned local authority or the Provincial government (Section: 26). With the aim of harmonizing the practice of authority and roles among the Pak-EPA as well as the concerned Agency of Provinces, Section: 27 states clearly that the Pakistan-EPA as well as the Agencies of Provinces are supposed to remain bounded through the orders given for the said organizations from the Federal Govt., while any Agency of Province also is supposed to be bounded by orders passed by the concerned Provincial Government (Section 27). The aim of development of Provincial Sustainable Development Funds was to offer monetary aid to appropriate projects (Section 9). Releases or exhausts that are above the NEQS put in place by the PEPC or any different marks put in place through PEPA was forbidden as in Section: 11(1). Pakistan's Federal Govt. got allotted power for putting charges of pollution at anyone who didn't adhere to NEQS Section: 11(2). An elaborate multi-tier environment checking procedure got established to cater to planned developments that included submission of a detailed Initial Environment Inspection else in case of programs that are suspected to result in a serious harm to environment, a thorough Environmental Impact Assessment (Section 12). The Act puts a ban on importing dangerous waste (Section 13). Holding of dangerous materials has been forbidden unless the handler has a valid license (Section 14). In order to make sure that everything complies well to NEQS, Pakistan-EPA got authorized for ordering that automobiles must have some sort of pollution control equipment or run on such fuels or go through such testing and upkeep which may be ordered (Section 15). Both the organizations Provincial Agencies and Pak-EPA were authorized to churn out Environmental Protection Orders (EPO) to manage any probable or actual negative environmental impact that may violate the rules of the Section 16 of said Act. Environment Tribunals were established and given sole jurisdiction for trying grave crimes that fall in the range of this Act (Section 20 & 21). Petty crimes that relate to pollutants caused by automobiles, inadequate disposal of garbage, littering as well as other similar violations of laws are declared as the responsibility of Environment Magistrates as per Section 24. Anyone who has a complaint has the option to lodge one to the Environment

Tribunal post issuing a thirty-day notice to a concerned Agency of the province or to the Pakistan-EPA. Post a notification in the Official Gazette, the Act's Section 31 allows Pakistan's Federal Government, to establish rules for implementing the goals of the Act, which may include Rules needed for implementation of provisions of international environment agreements that are present in its Schedule. The schedule of the Act lists 14 MEAs. The Act moreover, allows the Pak-EPA to develop Regulations, after they are approved by the Federal Government, and through an intimation the Official Gazette, which appear to be in line completely with the soul of the said Act as well as other rules established with its powers (Section 33).” The discussed new Act annulled PEPO, however, preserved everything of its notifications, regulations and rules and also declared that the assets and the properties of the Provincial and Federal Agencies that were developed under the PEPO were to be granted to the Provincial and Federal Agencies made under the new Act. During the period of the release of the Act in the year 1997 and the arrival of the 18th Amendment of the year 2010, the below Guidelines, Rules, Notifications and Regulations placed in the chronological order, were released by the Pak-EPA or Federal Government of Pakistan under the new Act:

- 1) PEPC's development.
- 2) Granting of the authority to the Provincial Environment Protection Agencies by the Federal Government.

It would serve to mention that the novel Act declares the roles and authority of Pak-EPA in contrast to that of the Agencies of Provinces. The roles and authority of Pak-EPA is mentioned in the Section 6 and Section 7 of the Act, and in other portions of the Act and the Regulations and Rules formed thereunder, a significant mention of the role of Pak-EPA is present. On the flip side, the Provincial Agencies, that were to be formed by the notifications released by the respective Provincial Government, in line with the Act's Section 8, were to employ such powers and roles which may be allotted to the same by the respective Provincial Government following the Act's Section 26(1). The Act's Section 26(1) permits the Federal Government to allot its desired powers, or the power of Pak-EPA in the Act or the regulations and rules made under it to any Provincial Government, local council, Government Agency or a local authority. Following the Act's Section 26(2), a Provincial Government may, via any notifications in the official Gazette, allot its desired roles and authority to any Provincial Government Agency or a local authority or local council.

This Notification delegates the following powers of the Pak-EPA under the Act to the Government of Punjab:

No.	Provisions of the Act	Conditions and Limitations, if any
1	Clauses (a), (e), (f), (i), (j), (k), (l), (m), (n), (o), (p), (q), (r), (s) and (t) of sub-section (1) of Section 6 and sub-section (2) of that section	The systems and procedures for monitoring and measurements under Section (6)(1)(i) shall be established by the Pakistan Environmental Protection Agency
2	Clauses (c), (f), (g), (h), (i) and (j) of Section 7	The powers and functions shall not be exercised in respect of projects sponsored by the Armed Forces of Pakistan or any project having transitional and inter-provincial adverse environmental effects.
3	Section 12	
4	Section 14	
5	Section 15	

In a bid to make this report, numerous requests were launched asking for any more notifications that provide evidence of the allotment of powers under the Act by Punjab's government to Environmental Protection Agency of Punjab.

2.4.3 Impact of the 18th Amendment

According to Constitution's section 101(3), 2010 Act; Fourth Schedule's Concurrent Legislative List to Pakistan's Constitution got removed. Thus, legislative as well as executive powers of Pakistan's Federal government were therefore significantly rearranged. The Federation was awarded executive powers on subjects listed in the Federal Legislative List while the Federating Units of provinces retain the power on all separate issues. Again, the point of linkage among the Federation and Federal Units, the said amendment that appeared post 18th Amendment to Constitution of Pakistan's article 144 permits the Parliament to build laws on a issue if asked to form laws by the resolution of only one Provincial Assembly.

With the onset of the 18th Amendment, the ecology and environmental pollution's regulation isn't within the legislative powers of the Parliament anymore and as a result, it doesn't fall anymore within the range of executive powers of the Federal Government. Consequently had the option to either form their tailored environmental legislation or use the Article 144 to request the Parliament to make one for them.

Peshawar High Court's full bench in the Noor Daraz Khan versus the Federation of Pakistan stated (at para 16 & 17):

16. "Through exclusion of the Concurrent Legislative List, the eighteenth Amendment has basically amended the divide of legislative power among Provincial Assemblies and Parliament, that resulted in major rise in regard of Provincial autonomy. The said amendment brought around 36% alterations in Pakistan's 1973 Constitution by inserting, altering,

substituting or eliminating numerous article of the Constitution of the country. The 18th amendment of the constitution of Pakistan rearranged the fundamental structure of the country via major swing from a largely centralized to largely decentralized Federation. An elaborate study of the text indicates that federalist regime got initially established while is still considered an organizational tool for the division of power and sovereignty among regional and national segments of governments with the purpose of reducing the chance of an authoritarian or excessively centralized government. In this regard, Pakistan's constitutional framework further strengthened a multilevel system of governance through furthering more autonomy to the Federating Units (provinces) and developing basics of significant decentralization at the lower steps of the local governance. The Constitution of Pakistan outlines the level of executive powers of the provincial and federal governments via Articles 137 and 90. The province's executive authority has command over issues regarding which the Provincial Assembly can develop laws. As a rule, executive powers have been prerequisites with the legislative power on the provincial and federal levels. The country's multi-level system of governance's jurisdictions were re-designed, on the inter-provincial, federal and provincial levels by amending the Federal Legislative List Part 2 and part 1 and by dropping the Legislative Concurrent List. As a result, federal and executive powers of provincial and federal governments were delimited through giving the exclusively 53 subjects to federal government, while Council of Common Interests was given 19 subjects and all the remaining subject were allotted to the provincial governments..

17. Article 270AA(6), as amended, provides that notwithstanding omission of the Concurrent Legislative List, every law regarding any issue listed in the discussed list, which may include Orders, By-Laws, Ordinances, Rules, Notifications and Regulation and other legal tools boasting the power of law, that were in power instantly before the approval of the 18th Amendment, shall stay in power till amended or removed by a capable authority.

The Article 270AA(6) of Pakistan's Constitution says that despite the exclusion of the Concurrent List through the 18th Amendment, every law regarding any issues listed in the said List that were in power immediately prior to the introduction of the 18th Amendment, will continue to remain in power till amended, altered or repealed by some competent authority. Pakistan's Supreme Court backed this judgment (reliance is placed on *Air League of PIAC Employees vs. Federation of Pakistan*, 2011 SCMR 1254). Therefore rules regarding the environment released by the Federal Government prior to the 18th Amendment shall remain in power in all provinces of Pakistan until they are altered, repealed or amended by a competent authority like the Provincial Assembly.

In its paragraph 35, it was said that the thought behind offering backing to such laws appears like the fact that all of such regulations/law were by nature non-temporary laws while they were by no aspect temporary by nature. Moreover, the provision is formed to offer continuousness sans the need for forming new legislation while safeguarding the provinces rights to repeal, alter or amend any laws.”

And in paragraph 4 the parliament gave the “choice to Provinces that if they deem fit may carry on with the laws that are at present in place, or amend them if needed. In case they believe that a current law does not fulfill their needs, they may revoke any law and develop a new law. If the objective of parliament was that lest changed, amended or revoked, (a specific law of federation whose subject has devolved following the eighteenth Amendment) will continue to be a federal law, the Parliament can make it obvious that until its repealing, alteration or amendment, the powers will remain in the hands of the Federation.”

The “18 Amendment therefore brought a new beginning in Pakistan’s environmental regulation and significantly caps the enforcement of the Pakistan Environmental Protection Act of 1997 within the lines of the Provinces. However, the said Act continues to be in force in the Islamabad Capital territory, in the Federally Administrated Tribal Areas and in case of any projects that may have an inter-provincial damaging environmental implications. The level of handovering of the powers for ecology and environmental pollution post 18th Amendment are not conveyed in the structure and scope of responsibilities given to the Environmental Protection Department.”

2.4. 4 Gaps in Implementation and Enforcement of Environmental Laws

2.4.4.1 Impact of the 18th Amendment

The “18th Amendment and introduction of the environmental legislation of provinces has constitutionally repealed the Pakistan Environmental Protection Act of the year 1997 and the regulations and rules formed under it to the level of the territorial range of the Punjab province and the statutory repeal of the Pakistan Environmental Protection Act of 1997 in the Balochistan and KPK provinces. In a nutshell, the Sindh Environmental Protection Act released in the year 2014 and the Punjab Environmental Protection Act formed in the year 1997 don’t really safeguard any regulations or rules formed following the Pakistan Environmental Protection Act of 1997 the way it was done in Balochistan and KPK’s case.”

Consequently the “position is that neither of the regulations or rules formed under the Pakistan Environmental Protection Act of the year 1997 have any life or are in power in the province of Sindh or Punjab. The Sindh and Punjab Governments and Punjab’s EPA as well as the EPA of Sindh had practiced their authority in light of the legislation of their provinces for forming fresh regulations as well as rules. That being said, the bellow rules have to be formed as well:”

- Environmental Laboratories certification rules (in the province of Punjab)
- Laws related to the allotment of hazardous waste handling license (for Punjab)
- Regulations/Rules regarding the review of Environmental Impact Assessments (Punjab) and Preliminary Environmental Review
- Sectoral Guidelines regarding various projects that need Preliminary Environmental Scrutiny or the Environment Footprint Assessment (in Punjab province and Sindh province)
- Rules of use and working of a sustainable development fund (at Punjab and Sindh provinces)

In addition, “the section 34 of Punjab Environmental Protection Act, 1997 abolishes 1983 Pakistan Environmental Protection Ordinance and secures all the regulations and rules that were established under its umbrella. The said Section requires amendments so as to abolish Pakistan Environmental Protection Act of 1997, instead and protect every regulation and rule developed in accordance to it until the point no inconsistent with the Punjab Environment Protection Act of 1997. Moreover, a novel section needs to be included to protect all forms of prosecutions etc. established after the release of the 2012 Punjab Environmental Protection Act (Amended).

2.4.4.2 Notifications Required under the Punjab Environment Protection Act, 1997

The 1997 Punjab Environmental Protection Act, in many situations, demands notifications to be formed/released so as to put the law in action. Such notification may include:

- Provincial Agency’s Notification in pursuance of Section 5(1) of the Act
- Mechanism of hiring of legal, administrative and technical workforce Notification for the Provincial Agency in regard to Section 5(3) of the Act.
- Sectoral Advisory Committees Notification with regard to the Act’s Section 5 (6)
- Environmental Coordination Committee of Punjab’s Notification with regard to the Act’s Section 7(k)

2.4.4.3 Environment Legislation in other Province

“The Annexure has all the information regarding the environment related legislation of the provinces of KPK, Balochistan and Sindh after the passing of the 18th Amendment. The novel laws in discussion can be considered as largely a measure above the supervisory levels put in place by the Pakistan Environmental Protection Act of the year 1997 and the previous portions of this thesis discuss in detail how the new laws are advanced and different from the previous ones. Since the PEP Act of the year 1997 doesn’t basically alter the basics of Pakistan Environmental Protection Act of 1997. Add-ons to other provincial legislations came quickly and can be considered an objective measures of voids in the existing legislation of Punjab. Advancements in the legislation of other provinces include.”

2.5 Criticisms of the Precautionary Principle

“Pakistan over the years has seen some grave environmental issues that include, but are not limited to land degradation, air pollution, climate change, natural disasters and deforestation. Although, all such environmental issues are linked to one another, they put a major toll on all forms of life, that is a strong enough alarm for humans to understand how defenselessly the world is dealing with the issues related to environment.

Numerous private and public environmental protection organizations have been active in Pakistan since long, aiming to curtail the significant threat, however the society in general, has been critical of such bodies instead of supporting them.”

Faced with different environmental problems, the government of Pakistan is now exploring the use of the Precautionary Principle to help solve these issues. Although the Precautionary Principle is deemed as a tool that will help policymakers formulate better decisions and strategies for the environment, a lot of experts were still able to identify various potential problems with regards to its application. However, the probability of these problems arising will depend on the formulation of the policy or regulation and its way of implementation. Here is a list of the most common criticisms of the Precautionary Principle:

2.5.1 Excessive Discretion

There are experts who express their side that the major social choice and definitional problems that are involved in implementing the Precautionary Principle might bring a higher

degree of discretion to the decision makers (Wills, 1997)³⁸. When there is an excessive amount of discretion can lead to unforeseeable and incoherent environmental management decisions which will then result to a higher level of uncertainty and cost for businesses that may hinder corporate planning (Harding and Fisher, 1999)³⁹.

Segal says that not enough clarification of how decisions can be made gives way for opportunities of legal challenge to arise and unfurls an opportunity for the country's judiciary to take up a definition of the precautionary principle which is not aligned with the policy maker. Segal even observes that *“To leave the complete implementation of the said principle to the judicial decision fails to offer the industry any significant guideline or clarity.”*

2.5.2 Reversal of the Burden of Proof

There are also experts who disagree that the Precautionary Principle is an effective tool for environmental policy making because of the reversal of the burden of proof that may implicate high levels of costs on the side of the developers and producers. It is not a secret that most regimes require developers and producers to submit research showing the evidence and the consequences of the proposed activity at their own expense.

2.5.3 Distortion of Regulatory Priorities

According to Majone (2002)⁴⁰, the use of the Precautionary Principle can lead to the distortion of regulatory priorities by creating a loss of focus on the most dangerous hazards. Aside from that, according to Graham (2004)⁴¹, it can also redirect the regulatory attention from *“known or plausible hazards to speculative and illfounded ones.”*

2.5.4 Stifling Development and Technological Innovation

One of the most common criticisms of the Precautionary Principle is that it will stifle technological innovation and paralyze development. However, this is only true if the application of the principle is erroneous as there are supporters of the principle that states that *“putting it in action would advance the implementation and enhancement of secure, technologically viable, and commercially feasible alternatives which are discounted in cases where possible threats to human life, health and the environment are ignored”*

³⁸ Wills, I. 1997, 'The environment, information and the precautionary principle', *Agenda*, vol. 4, no. 1, pp. 51–62. ——— 2006 (forthcoming), *Economics and the Environment: A Signalling and Incentives Approach*, Allen and Unwin, St Leonards, NSW (in press).

³⁹ Segal, J. 1999, 'An industry perspective on the precautionary principle' in Harding, R. and Fisher, E (eds), *Perspectives on the Precautionary Principle*, The Federation Press, Sydney.

⁴⁰ Majone, G. 2002, 'What price safety? the precautionary principle and its policy implications', *Journal of Common Market Studies*, vol. 40, no. 1, pp. 89–109.

⁴¹ F Francioni and T Scovazzi, *International Responsibility for Environmental Harm* (Graham & Trotman, London, 2004).

2.5.5 Perverse Consequences

It is also argued that the application of the Precautionary Principle can lead to perverse consequences. Aside from that, the cost of utilizing this principle can be higher than the cost of waiting until the anticipated risks are proven. Wills (1997)⁴², argues that the precautionary measures that one might take can be costly but ultimately ineffective because of its uncertainty about some hazards and how to address those.

2.5.6 Misuse as a Protectionist Barrier

Last but not the least, it is also argued the precautionary principle has the potential of misuse and manipulation by opportunists pursuing commercial interest (Gollier and Treich, 2003)⁴³. Gollier and Treich said in their study for example that commercial gains might create opposition for a novel process or product which could come as a competition to an existing process or product on the excuse that the new one might have adverse yet unproven health or environmental effects. In many instances, a great number of critics believe that the precautionary principle could be employed as a camouflaged type of protectionism. The precautionary principle has been applied in a great number of commercial trade disputes”

CHAPTER – 3

PAKISTANI GOVERNMENT’S MEASURES AGAINST ENVIRONMENTAL THREATS

3.1 Overview

The Pakistani government has become increasingly aware of the repercussions of environmental threats. These problems may halt the social development and economic growth of the country. With that, it has been implementing ways to address these environmental concerns since the early 1990s. Some of these means are through new legislation, the Pakistan Environment Protection Council, and other institutions.

However, foreign lenders provide the bulk of funds for environmental protection. Moreover, protection of the environment receives only 0.04% of the development budget of the

⁴² Wills, I. 1997, ‘The environment, information and the precautionary principle’, *Agenda*, vol. 4, no. 1, pp. 51–62. ——— 2006 (forthcoming), *Economics and the Environment: A Signalling and Incentives Approach*, Allen and Unwin, St Leonards, NSW (in press).

⁴³ Gollier, C., & Treich, N. (2013). *Encyclopedia of Energy, Natural Resource, and Environmental Economics*. Newnes.

government. Because of these financial constraints, the government has limited means to enforce environmental regulations in the country. Furthermore, the private industries in Pakistan often fail to meet the international trade standards for the environment due to budget constraints.

With that, the Pakistani government stepped up its game and boosted its campaigns for overcoming environmental issues in the country. Some of the campaigns they implemented were the Billion Tree Tsunami Project and the Clean Green Champion Program.

3.2 Billion Tree Tsunami Project

In 2014, the KPK or Khyber Pakhtunkhwa Pakistan government launched the Billion Tree Tsunami Project. This initiative was one of the responses of the government to the challenges posed by global warming. This project restored 350,000 hectares of degraded lands and forests. Furthermore, the project focused on improving the ecosystems of classified forests, wastelands, and farmlands (Khan, 2017)⁴⁴.

This project was in close collaboration with stakeholders and involved communities to ensure the participation of the citizens. To involve the people, the Pakistani government promoted the project and its extension services.

Within a year, the Billion Tree Tsunami Project added approximately a quarter of a billion new trees. That was the primary goal of the program, hence its name, the tree tsunami. The project achieved its goal of reversing forest loss ahead of schedule and was completed in August 2017. International media lauded this Pakistani government effort like Reuters, Washington Post, AlJazeera, and The Hindu.

3.3 Clean Green Champion Program

Another Pakistani government measure against environmental issues is the Clean Green Champion Program. Launched in 2019, this program aimed to encourage cities in the country to compete in greenery and cleanliness.

To materialize the program, the government launched a web portal where Pakistan citizens may register and report their activities. Doing so will let them earn points. The clean green activities have five primary pillars, namely tree plantations, total sanitation, solid waste management, safe drinking water, and liquid waste management and hygiene. When they reach a certain point threshold, the citizens will be acknowledged and awarded medals.

⁴⁴ Khan, M., Chaudhry, M. N., Ahmad, S. R., & Saif, S. (2017). The role of and challenges facing non-governmental organizations in the environmental impact assessment process in Punjab, Pakistan. *Impact Assessment and Project Appraisal*, 38(1), 57-70.

3.4 National Conservation Strategy

Aside from the said programs and initiatives, the Pakistani government also established the National Conservation Strategy. The National Conservation Strategy is a document that encourages and guides the natural resource preservation, development in sustainable fashion, and enhancement of efficacy regarding the management and use of resources. Its formal implementation began in March 1992, which was its approval date by the federal cabinet (National Strategies for Sustainable Development, 2000).

According to the US Library of Congress (2021), the National Conservation Strategy Report has three explicit objectives. These objectives are “natural resource preservation, boosting development in sustainable fashion, and enhancement of efficacy regarding the management and use of resources.” The National Conservation Strategy Report is a call to action addressed to multiple groups such as the central and provincial governments, non-government organizations (NGOs), businesses, local communities, and even individuals (National Strategies for Sustainable Development, 2000).

3.5 Pakistan Protected Areas

To further conserve and protect the quality of nature, the Pakistani government has established numerous protected areas in the country. As of now, the International Union for Conservation of Nature recognizes 398 protected areas in Pakistan (M.A.A. Khan, 2020). These areas include national parks, game reserves, wildlife sanctuaries, littoral and marine protected areas, and natural monuments. Moreover, Pakistan also has protected grasslands, wetlands, woodlands, and shrublands.

3.6 Pakistan Climate and Environment International Agreements

Pakistan also takes part in numerous international agreements and treaties related to the climate and the environment. These international agreements have varying scopes such as specific regions and seas, atmosphere and climate, biodiversity and forests, wastes, and rivers. Some of these international treaties are the Law of the Sea, Ozone Layer Protection, Nuclear Test Ban, Hazardous Wastes, and Indus Waters Treaty (InforMEA, 2021)⁴⁵.

⁴⁵ Access information on Multilateral Environmental Agreements. (1992). *In Re: Human Rights Case (Environment Pollution in Balochistan)* | InforMEA. InforMEA | United Nations Information Portal on Multilateral Environmental Agreements. <https://www.informe.org/en/court-decision/re-human-rights-case-environment-pollution-balochistan>

CHAPTER - 4

RESULTS AND DISCUSSION

Case: New Murree Development Project

The case of Muhammad Asjad Abbasi & others v. Iqbal Muhammad Chauhan & others (2005)⁴⁶ tackled the issue of the New Murree Development Project or NMDP, which is a Rs 60 billion project aimed to develop the Patriata Reserved Forests in the Rawalpindi District into a tourism-driven city. To accomplish the said objective, various alterations had to be made in the natural environment near Patriata of more than 4000 acres. These changes could have resulted in damage to the natural environment, as well as the progression of the vulnerabilities of the residents in the area.

For instance, the NMDP necessitated the clearing of at least 700 thousand conifer trees within the Patriata Reserved Forests. Deforestation of this scale would most probably lead to immense pressure on the forest's fragile ecosystems. The area is inhabited by around 200 plant species and 189 species of vertebrates. The flora and fauna within the forests would have faced grave threat had the New Murree Development Project pushed through.

Moreover, the loss of protective forest cover may alter the hydrological flows within the area, thereby causing more intense floods and more violent run-offs. The heightened risk of hydrological disasters would have taken a toll on Simly Dam, Rawal Dam, and Mangla Dam, which are primary reservoirs supplying water to the people of Rawalpindi and nearby districts.

The Supreme Court emphasized that under the mandate of Articles 9 and 184(3) of the Constitution of the Islamic Republic of Pakistan and the Land Acquisition Act of 1984, it needs to implement directives to prevent the potential impacts of the New Murree Development Project. This decision manifests an alignment with the precautionary principle, primarily because of its preemptive nature.

The 66 villagers led by Advocate Rajah Abbasi who filed the petition did not have the necessary evidence before filing the petition. The reports of the International Union of Conservation of Natural Resources and the World Wide Fund for Nature were provided as per the request of the Supreme Court justices who are presiding over the case. Despite this,

⁴⁶ Muhammad Asjad Abbasi & others v. Iqbal Muhammad Chauhan & others . SMC No. 10, Supreme Court of Pakistan (2005). https://www.supremecourt.gov.pk/downloads_judgements/CrI.O.P_57_2015.pdf

the project was still not allowed to push through in its entirety, a decision that is based on the potential outcomes and impacts.

While the Supreme Court and the local environment secretary of Punjab halted the implementation of the New Murree Development Project, various housing sub-societies continued with the land conversion preparations. Trees were bulldozed and some hills were flattened in small portions of the Patriata Reserved Forests. The villagers petitioned another case against these housing groups, claiming that the NMDC and all its associated activities should have been abandoned already.

In retrospect, the NMDC has raised awareness of the importance of preserving reserved forests amid rapid urbanization and industrialization. The petitioners, who are by no means more powerful than the corporations pushing for NMDC, have used the precautionary principle to their advantage. Pakistan's Supreme Court decided to prioritize the preservation of the natural environment and acted on it even before the stakes became higher. This preemptive mindset helped save Patriata Reserved Forests and the people who depend on it.

Case: D. G. Khan Cement Company Ltd. (Petitioner) Versus Government of Punjab through its Chief Secretary, Lahore, etc.

The case originated from the amendment in the notice of September 17, 2002, in the sense that cement plant enlargement and expansion of existing cement plants are not allowed in the "Negative Areas" of Chakwal and Husab. The petitioner owns and operates a cement factory in Kahoon Valley, Khairpur, Salt Ridge, Chakwal District, and is aggrieved by the notice.

In other words, the negative area means an environmentally fragile area. A fragile natural habitat and needs care and protection until it recovers, if any. This expansion of the existing cement plant in the negative area attracted the established principles of the international environmental law called the precautionary principle. In the facts of the case, the provincial government was forced to act cautiously and act following the principle.

The Supreme Court started on identifying the legality of declaring an area as a "Negative Area" under the ordinance. The decision to ban the establishment and expansion of cement plants was not taken to benefit or punish anyone but to ensure organized and planned industrial growth without affecting the local population's social, environmental, ecological, civic, and economic benefits.

Predictive Action: The Districts of Chakwal, Jhelum, Khushab, and Mianwali of Punjab. M/s. NESPAK and M/s. Sogreah ("Consultants") and the project team include foreign

experts, will conduct a fairly comprehensive exercise that will cover a range of factors likely to be impacted by the establishment or expansion of cement plants in the project area.

Alternatives Assessment: The above consultants have created criteria for proposing proposals regarding the delineation of negative and positive areas for the new construction and expansion of existing cement plants:

- i. sufficiency of cement raw materials;
- ii. sustainable water resources;
- iii. environmental conditions of the project area;
- iv. socio-economic conditions;
- v. transportation infrastructure; and
- vi. agriculture, forest, restricted and sensitive sites.

Prepare a Factual Report for Full Cost Accounting: Below are the factors that led the consultants to decide to declare the site a "Negative Zone," which completely prohibits establishing new cement plants and expanding existing cement plants.

- Comprising 979 sq km of land in the Salt Range out of a total area of 8,872 sq km
- The Consultants found that the groundwater down at an average of 64 feet at various locations, shallow wells (open/dug wells) had been found dried up. And could cause further depletion of groundwater resulting in more significant problems for the local people, especially for agriculture.
- This location also includes valleys containing forest areas, settlements, and agricultural lands with significant scenic and touristic value needed to be protected.
- The study showed that any new cement plant or expansion of containing string cement plant would require further road infrastructure improvement in the capacity of the existing road infrastructure. Therefore, in the total area of 8,872 CP1290-L of 8 square kilometers in 2019, a hostile place with an area of 979 square kilometers (11% of the total area) and new and existing cement expansion is designated. Plants are prohibited.
- Clearly the Salt Range is characterized by an arid climate with a sever scarcity of water. Among the key extreme climate change dangers for Pakistan is undoubtedly the temperature rise that results in water stress and extreme heat conditions, in

particular in the arid as well as the semi-arid locations, that results in the decline of agricultural productivity.

- The report also reveals that there are also other issues besides water. Blasting and extraction of raw materials cause local dust pollution and environmental damage; deforestation and erosion caused by extraction; heavy transport vehicles and machinery used to transport raw materials. The local population in the area has had a negative impact; the quarry destroys the beauty of the rooms, and the air emitted by the cement industry is a cause of air pollution in the area.

Participatory Decision Process: The Supreme Court of Pakistan and courts worldwide have a vital role in relieving climate change for our generation and generations to come. As a result, all of the petitioners' claims were denied. The applicant company cannot expand or increase its existing cement plant capacity until the negative zone remains.

**Case: Maria Khan (Petitioner) et al. v Federation of Pakistan et al.
Writ Petition No 8960 of 2019 (Lahore High Court).**

The respondent violated the petitioner's fundamental rights under the 1973 Constitution of the Islamic Republic of Pakistan, causing environmental instability, global warming, and climate insecurity. The petitioners are outraged by the Constitution Articles 4, 9, 14, and 25. The petitioner's complaint originated from the respondent's failure to reduce greenhouse gas (GHG) emissions by taking the most urgent and high-priority development energy mitigation measures and continued losses and transition to Pakistan's carbon economy. Climate change is an anticipated threat to the planet, especially in Pakistan.

They also noted that the High Court of Pakistan has held that "the fundamental rights to life and personal security stipulated in Articles 4 and 9 of the Constitution include the right to a healthy and clean environment. And also skip on discussing "Constitutional principles of democracy, equality, social, economic and political justice, including international environmental regulations and precautionary principles. The concept tackles proofs for potentially harmful actions of industry or government.

Pakistan is not a significant contributor to GHG emissions globally. However, it is one of the top ten countries that will be hardest hit by climate change. It is critically vital that Pakistan takes action. Implementing mitigation measures to signal the global community must immediately address climate change's urgent threat; otherwise, global warming will reach irreversible levels.

The Federation of Pakistan should have used the principle to avoid the following violations;

- Despite the clear mandate of the 2006 ER Policy, the firm commitments made by the State of Pakistan under the Paris Agreement and urgent threats of climate change require mitigation measures. Defendants, by their actions, omissions, and conduct, have not taken any significant energy sector-related mitigation measures in this regard.
- The Federation's failure to support and promote renewable energy sources indigenous and cheaper than more expensive traditional energy sources is an absurd and arbitrary exercise of executive power.
- Respondents and blindly disregarding their constitutional duties created unnecessary obstacles to the development of renewable energy projects.
- Respondents failed to design and enact a new renewable energy policy to replace the now-expired RE 2006 policy. The willful failure to act on the part of respondents is unconstitutional and violates petitioners' fundamental rights.

The Federation should start to focus on two main mitigation measures to slow climate change: (1) Reduce consumption of fossil fuels and use alternatives and greener energy sources, and (2) develop carbon sinks and sequester carbon. Immediate recommendations focus on the first and highest cost-effective mitigation measures to slow climate change. In addition, they should develop and implement an integrated climate development policy to lead Pakistan to climate-resilient development. All stakeholder committees and other relevant agencies, including the Climate Change Authority (if configured), on a large-scale long-term climate change in Pakistan. Reduce human emissions of GHG as much as possible in a cost-effective manner.

Case: Cutting of Trees for Canal Widening Project Lahore

The *suo moto* case of Lahore Bachao Tehrik, also known as the Save Lahore Movement, versus the Government of Punjab (2009) treaded the issue of the cutting of trees for the widening of the 14 kilometer-long Canal Bank Road in the middle of Thokar Niaz Baig and Dharampura Underpass in Lahore. According to the Save Lahore Movement, the 800-million widening project may not directly address the traffic congestion and bottleneck issue that it aims to solve. And aside from the inefficacy, the project may lead to further adverse impacts, that is, the destruction of green spaces along Canal Road.

Save Lahore Movement further claimed that the Environmental Impact Assessment report that approved the start of the project lacks rigor because it did not consider alternatives that

are not contingent on making changes in the natural environment. Some of the alternate options that could have been included in the EIA are public transportation improvements, congestion charges, and better use of already existing facilities, among others. For the Movement, the Canal Road Project should not push through as the environmental approval issued by the Environmental Protection Agency - Punjab lacked sufficient legal basis.

In the initial letter sent by the Save Lahore Movement to the honorable chief justice of Pakistan, the group invoked the precautionary principle of environmental regulations as exemplified by the Shehla Zia case. This claim is supported with ecological assessment reports from World Wide Fund for Nature - Pakistan, detailing the various flora and fauna that could be potentially affected should the Canal Road Project get approved as it was.

Multiple species of trees such as poplar, mango, pipal, and eucalyptus also faced the threat of being cleared during the widening. More than just providing shade, these trees aid in filtering particulate matter suspended in the air, and also help mitigate the urban heat island effect. Cutting these trees would entail graver pollution impacts and more thermal discomfort for the residents who live near Canal Bank Road.

The Supreme Court heeded the precautionary principle in determining its ruling for the case. From the evidence set by the petitioners, it was clear that the pursuance of the Canal Bank Road Project would lead to undesirable environmental impacts, and the Supreme Court was convinced that altering the specifics of the project is the best course of action.

The intervention given by the Supreme Court has caused a paradigm shift in terms of urban development in Pakistan. Based on the Mediation Committee, the BRB canal and the green belt along the Canal Road have been declared as Heritage Urban Parks, which guaranteed their protection against future construction projects.

Furthermore, applying the precautionary principle in this ruling has highlighted the importance of non-governmental organizations in the environmental policy space. According to Khan et al (2020)⁴⁷, NGOs play a significant role in the preparation of Environmental Impact Assessments and other documents pertinent to major projects. This has been proven by the Save Lahore Movement, which stood firmly in its fight against the clearing of trees along Canal Road.

⁴⁷ Khan, M., Chaudhry, M. N., Ahmad, S. R., & Saif, S. (2020). The role of and challenges facing non-governmental organizations in the environmental impact assessment process in Punjab, Pakistan. *Impact Assessment and Project Appraisal*, 38(1), 57-70.

Case: Lahore Development Authority's Signal Free Corridor Project

In the case of Lahore Development Authority (LDA) v. Ms. Imrana Tiwana (2015), the citizens of Lahore challenged the Court to question the legality of Lahore Development Authority's Signal Free Corridor Project. The project aims to retrofit and renovate preexisting roads starting from Qartaba Chowk until Liberty Market Main Chowk, a distance that spans around seven kilometers. Upon the completion of this Rs 1.5 billion project, the road is expected to be converted into a high-speed expressway, equipped with the necessary pedestrian infrastructure and u-turns for the vehicles.

Ms. Tiwana and the rest of the petitioners argue that the project was initiated by the Lahore Development Authority even without having an approved Environmental Impact Assessment (EIA). This falls short of the requirements stated in the Punjab Environmental protection Act of 1997. Another point of contention of the petitioners is that the Provincial Environmental Protection Agency (EPA), tasked with generating the EIA, is a questionable body as it is not fully independent from the government.

Falling short of the policy requirements is already a reason for the project to be postponed, as adverse impacts may affect the environment and the people living within the area of the project. Trees will be cut down, altering the ecosystem and the urban microclimate. The project can also give rise to excessive levels of noise pollution which can bring discomfort to the residents within the vicinity. It is clear that without a proper EIA, the project's implementation involves high levels of risks.

While the Lahore High Court based its decision mostly on the constitutional issues touched by the Signal Free Corridor Project, the precautionary principle was still applied, albeit implicitly, in the determination of the ruling. In an analysis written by Siddiqui (2016)⁴⁸, it was said that Justice Mansoor Ali Shah has strong sentiments when it comes to environmental causes. As such, Justice Shah's decision leaned more towards a literalist interpretation of the law, and this interpretation viewed the project as potentially damaging to the environment.

The LDA, unconvinced with the ruling of the Lahore High Court, appealed to the Supreme Court of Pakistan, highlighting that the Provincial Environmental Protection Agency was not subjected to regulatory capture and that the Provincial Government should not be stripped of its executive and judicial powers, especially in implementing projects. The Supreme Court eventually overrode the ruling of the Lahore High Court, and the LDA was allowed to push

⁴⁸ Siddiqui, F. (2016). Signal Free Corridor: A Reflection on Inter-Governmental Power Struggle, Judicial Restraint and Regulatory Capture. LUMS LJ, 3, 76.

through with the project. The Signal Free Corridor was eventually completed in February 2016.

It is worth noting that while the provincial court of Lahore applied the precautionary principle in formulating its decision, the outcome was still in favor of the Signal Free Corridor Project due to technicalities. Nonetheless, the case put the issue of environmental compliance under the limelight, raising awareness to the residents and the government alike. The precautionary principle was put into good use by the Lahore High Court, but just like other tools, it is not all-powerful and there are multiple ways to bypass it.

Case: Sheikh Asim Farooq v. Federation of Pakistan, W.P. No. 192069 of 2018

In this case, the Court recognized the failure of the government to implement existing laws and policies, including the Precautionary Principle. Moreover, the Court also pointed to the government and its inaction as the responsible entities for the ongoing environmental crisis.

Massive deforestation occurred in Pakistan, and most citizens were alarmed. With that, a number filed a writ petition. In this petition, they asked the Lahore High Court to order the Pakistani government to fulfill its obligation of protecting the forests of the country. Petitioners also laid out the existence and the resulting impacts of deforestation in Pakistan. They did this by attaching several reports and articles showing numerous threats to trees, forests, and the environment in Pakistan and Punjab.

The Court recognized and agreed with the petition. They also backed it with their research to acknowledge the effect of deforestation on human health. At Para. 17 of the Official Judgement Sheet, the Court wrote:

It is ill-fated, disastrous, and alarming that Pakistan's forests are pretty much wiped out or declining. The deforestation in the country is resulting in growth of life-threatening illnesses. Studies of Yale School of Forestry & Environmental Studies confirms that the deforestation is eventually connected to increase in deadly illnesses. (2018)

The Court reiterated the Constitutional duty of the Pakistani government. According to Para. 27 of the Official Judgement Sheet, "Respondents are liable to develop a law/policy to protect the basic rights of the country's people that include the social and economic uplift and survival of the citizens" (2018).

Moreover, the Court emphasized the importance of environmental law. They also referenced multiple principles such as the Principles of Sustainable Development, the Public Trust

Doctrine, the Intra- and Inter-generational Equity, Water and Food Justice, Polluter Pays, In Dubio Pro Natura, and the Precautionary Principle (Para. 25). The Court also reviewed the existing laws applicable to the trees and forests in the country and stressed that the government should not be taking its duties lightly. According to Para. 82 of the Official Judgement Sheet, “commitment made under the doctrine of sovereignty should neither be lightly disregarded nor deliberately ignored” (2018).

In summary, the government should have implemented the Pakistani policies and laws effectively. Moreover, they should have taken the stated principles as guides towards their actions and implementations. Had they done that, they would have prevented the ongoing crisis, and the Pakistani forests may have been saved from further deforestation and depletion.

To remedy this, the Court ordered the Pakistani government to take action. this Court permits this writ of mandamus in light of the Constitution’s Article 199(1(a)(i) and orders the Governmental Departments that carry out their roles within the jurisdiction of the said court with regard to matters of Punjab Province, Federation and other local authorities following the concerned rules, declared in the current judgment to perform any action they are bound by law to carry out to securely manage, sustain, preserve, maintain and develop forests by planting plants in urban areas. (Official Judgment Sheet, Para. 83, 2018).

Case: No Waste to be dumped in Balochistan?

This case began when the Court found a report published by Dawn, a Pakistani English-language newspaper. Entitled “No Waste to be dumped in Balochistan?”, the news report expressed apprehension regarding business tycoons who were attempting to purchase Balochistan coastal areas. According to the report, the business tycoons were planning on converting the said coastal areas into nuclear or industrial waste dumping grounds. If proven true, this incident poses a grave hazard. Dumping threatens both the environment and marine life of the region. Moreover, it also poses risks to the health of the residents in the surrounding areas. If proven true, this incident would violate Article 9 of the Constitution of the country.

In response to the report, the Pakistan Court ordered the office to communicate with the Chief of Secretary of Balochistan. They inquired whether or not the government allotted any coastal land in the region to any person or organization. If so, the local government must submit the full particulars of the allottees to the Court.

Based on their inquiries, the Court found out that the Balochistan Development Authority allotted plots of land. However, they did not give any land plot to any person or organization to dump hazardous waste.

The Court acknowledged that the dumping of industrial or nuclear waste would most likely be clandestine acts. The Court resolution was to task authorities to check the land allottees regularly and ensure that they were not engaged in dumping activities. Moreover, the Court ordered the Balochistan Development Authority to submit the full particulars of all individuals who were allottees of plots of land in the area. Lastly, the Court specified that future allotment transactions must include specific conditions that the allottees must not use the land for dumping nuclear, industrial, and other types of waste.

In summary, the Court tried to implement actions regarding the issue. They carried out efforts to prevent the dumping of hazardous wastes in coastal land. However, their resolutions lacked concreteness—most decisions were reactionary. To uphold the Precautionary Principle, the Court must have been more proactive in its resolutions. They recognized that the dumping of hazardous wastes was most likely clandestine acts, and they should have been more probing of their investigations.

According to Sandin (1999)⁴⁹, the four components that must be present in creating decisions based on the Precautionary Principle are the threat, uncertainty, action, and prescription component. The Court must follow this formula to formulate an effective solution against environmental threats posed by business tycoons and other entities.

Specifically, they must strengthen the action clause of their resolution. A way to do so is to pose sanctions towards entities caught dumping industrial and nuclear wastes in the area. The Court must indicate a clause stating what will happen if they discover someone taking part in such acts. Moreover, they must create an intensive screening process when allotting land plots to ensure that the land plots will not become dumping grounds. The Court must have indicated these measures in the resolution. Doing so will increase their defenses against those who threaten to contaminate the marine region.

Case: Lahore Orange Line Metro Train Project

The Lahore Orange Line Metro Train Project underwent major environmental controversies and issues before its opening on October 25, 2020. A writ petition was filed against the project in 2017 due to the potential environmental and heritage threats.

⁴⁹ Sandin, P. (1999). Dimensions of the Precautionary Principle. *Human and Ecological Risk Assessment: An International Journal*, 5, 889–907. <https://doi.org/10.1080/10807039991289185>

According to the majority view, Lahore needs to have its mass transit train system. Among the cities in the world with populations greater than 10 million, Lahore is one of the remaining few without one. The majority view acknowledged the need to preserve and protect the heritage and historical sites of the country. However, they believe that this should not be at the cost of depriving Lahore citizens of a modern, efficient, and dependable mass transportation system. Moreover, the majority view insisted that progress and development are not mutually exclusive from the preservation of heritage sites and the environment.

On the other hand, the minority view stated that heritage must be protected and preserved in all respects. With that, it is the responsibility of the government to secure all the virtues, qualities, characteristics, and facets of heritage from all kinds of harm. The Orange Line Metro Train Project is a mass transit project that threatens to impair the visual integrity of heritage sites. Moreover, heritage also offers immense significance and public benefits towards the alleviation of poverty. Like the transit project, heritage sites are also valuable to society.

Moreover, the concurring view believed that the proposed construction of the said mass transit train system does not pose a considerable visual impairment threat towards nearby heritage sites. According to them, the vibrations due to train operations are not harmful. Additionally, they believed that it would be detrimental to obstruct the construction of the system solely based on apprehensions and assumptions with no concrete foundations.

According to the Precautionary Principle, inaction should not be justified with uncertainty if a potential threat towards the environment or protected site exists. Moreover, the Precautionary Principle urges policymakers to act in anticipation despite the absence of concrete evidence (Gollier and Treich, 2013)⁵⁰. However, the Pakistani government did not heed the Precautionary Principle.

The majority view backed their opinion up with reports from their experts. According to the said reports, the Orange Line Metro Train Project poses no real danger to protected premises within its vicinity. However, the respondents were not able to place on record any authentic technical data or analysis that may rebut the accuracy of the reports or reflect negatively on the stand and conclusion of the majority view experts. With that, the Government of Punjab may resume work on the Orange Line Metro Train Project subject to directions and conditions for the protection of cultural and heritage sites.

⁵⁰ Gollier, C., & Treich, N. (2013). Encyclopedia of Energy, Natural Resource, and Environmental Economics. Newnes.

Critics of this decision insist that the Orange Metro Train Line Project may have been built away from historical sites. By following the Precautionary Principle, they may have decreased the risk of the project potentially harming protected areas. Since the transit system just recently opened, the government is yet to verify whether or not the project is indeed harmful to the environment.

CHAPTER – 5

CONCLUSION AND RECOMMENDATION

Based on the conducted research, the specific method used to identify if the Superior Courts of Pakistan used the Precautionary Principle for its higher purpose is the twelve guidelines issued by the IUCN Council. These guidelines can effectively guide the application of the Precautionary Principle by providing a concrete and achievable checklist. By following the items stated in the IUCN, Pakistan and other countries can take note of what they must work on to improve their application and implementation.

Upon inspecting several Pakistani environmental cases, the researcher concludes that Pakistan closely followed most of the guidelines set by the IUCN Council. The researcher attributes this adherence to the fact that the concept of the Precautionary Principle is not unfamiliar to this specific country. Pakistan has had a grasp of the Precautionary Principle way back in 1992. Pakistan is an attendee nation to the Agenda 21 or the United Nations Rio Declaration on Environment. Through a consensus, Pakistan was one of the countries that were in agreement. Since then, the country has been building its knowledge regarding the integration and implementation of the Precautionary Principle.

Based on the cases presented, Pakistan succeeded in following all of the guidelines set by the IUCN Council. However, based on the court cases that did not follow the Precautionary Principle, the researcher concludes that the implementation problem does not occur in the High Courts of Pakistan.

To elaborate, the problem regarding the Precautionary Principle application roots in the implementation of the government. Most of the practices regarding the Precautionary Principle exist in theory, but the government commits lapses in applying them to real life. The Pakistani government has had gaps regarding environmental laws implementation. These oversights, in turn, destroyed the environment. For it to be effective, the Precautionary Principle must exist not only on paper but also in practice.

Moreover, the government tends to be in favor of businesses when it comes to environmental matters. More often than not, the government prioritizes the economic gain of activities over concerns regarding the environment. There had been instances wherein the government disregarded the impending threats posed by an activity merely because it seemed profitable. Due to this subtle bias, the implementation of the Precautionary Principle becomes more complex. With that, the government has to find the perfect balance between progress and preservation. As mentioned in one of the cases studied, these two are not mutually exclusive—the Pakistani government must seek the perfect balance between those two aspects.

However, there is no doubt that the Precautionary Principle plays a significant role in transforming and improving the environmental scene in Pakistan. Although the government can still optimize its implementation methods, the concept already exists. The government merely has to work on executing its laws and policies. In that way, the Pakistani government can properly uphold the Precautionary Principle.

To summarize, the Precautionary Principle undeniably aided in saving numerous ecosystems in the country. As the Pakistani government improves its means of execution, the country will further maximize and gain the benefits of the Precautionary Principle.

Moreover, the researcher concludes that the Precautionary Principle worked in the Superior Courts of the country. As observed through data gathering, official judgment sheets of court cases often mentioned the Precautionary Principle and referenced its postulations. Thus, the researcher can say that the Court is consistent in using the Precautionary Principle to guide its decisions and resolutions.

This study inspected and analyzed the manifestations of the Precautionary Principle in the Superior Courts of Pakistan. However, one must note that to achieve the primary goal of the Precautionary Principle, the government must also involve the other stakeholders. Thus, the researcher proposes the following recommendations. These further studies will help one gain a deeper understanding of the matter. Moreover, conducting these recommendations will vastly aid in broadening the scope of the study.

First, the researcher recommends surveying the knowledge of Pakistani citizens about the Precautionary Principle. The researcher recognizes that the citizens are one of the primary end-users of the laws of the Superior Courts. With that, one may administer a study to gauge their understanding of the principle. Based on the results of that study, the government should hold information campaigns to disseminate information and help the citizens understand the Precautionary Principle better.

Furthermore, as observed in the cases, most of the entities that went against the ideals of the Precautionary Principle were businesses. Thus, one may conduct a study to gauge the knowledge of business owners. Through this, one will know whether or not these business owners are aware of the threats that their activities pose to the environment.

Overall, the researcher concludes that this study is a substantial step towards restoring the environmental integrity of Pakistan. The Precautionary Principle holds the potential of becoming one of the fundamental pillars of conservation in the country. With that, it is productive and necessary to assess its application in the country.

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