

Review Article

Environmental Conflicts and Cooperation

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Introduction

Industrialization, urbanization and rapidly increasing population is posing a burden on the earth's resources while simultaneously causing climate change around the globe. Various local, national and international conflicts arise with the exploitation of the natural resources of the earth and their injudicious uses. Unwise discharging of the waste in the transboundary zones brings such conflicts in two or more parties. Some countries began imposing limits on themselves in order to conserve the environment and alleviate the effects of anthropogenic climate change. This proved to be a futile attempt, and it reinforced the view that achieving the goals on one's own is impossible. Thereby, the idea of environmental cooperation surfaced, with the goal of halting the ongoing environmental degradation. This collaboration brought together a number of industrialized and less developed countries in an attempt to regularize and make declarations on biodiversity preservation and environmental protection.

Environment

The environment is defined as a set of numerous biotic and abiotic variables that surrounds human as well as living organisms. It encompasses land, air, water as well as the interrelationship of humans with these variables as well as other biotic variables including plants and animals [1]. This natural environment system consists of four interlinking systems which are inextricably linked and dynamic in nature, being influenced by anthropogenic activities and vice versa [2]. Hydrosphere, consist of all the water that exists below, on the surface, and in the atmosphere. Lithosphere is the rigid and rocky outermost layer of the earth consisting of the crust and uppermost mantle of the earth's layers. The atmosphere is a thin layer of gases, such as oxygen, carbon dioxide, nitrogen and other trace gases, that envelops the planet to protect it and its inhabitants from harmful radiations of the sun. It consists of five concentration layers differentiated based on their temperature and other characteristics [1]. Biosphere is the combination of the atmosphere, lithosphere and hydrosphere, where life exists. It is also known as life layer as it refers to all the living organisms on the earth and their interaction with air, water and earth's crust. It consists of all flora and fauna present on the earth's surface.



Environmental conflicts:

Environmental conflicts include the key issues challenging the local, regional, national and global security. These conflicts are widespread and are increasing rapidly. The causes for these conflicts vary across the globe and manifestation differs substantially including control over vital environmental resources by one party or dispute overuse of natural resources of the planet. The term conflict is defined as “a social situation in which a minimum of two actors (parties) strive to acquire at the same moment in time an available set of scarce resources” [3]. Environmental conflicts occur when one party is perceived to take action at the expense of another party’s interests. Factors like competition for finite environmental resources, conflicting attitudes and beliefs as well as institutional factors trigger and intensify these environmental conflicts. For example, conflicts on water resources, their flow, salinity, diversion, floods and pollution, are the major and most common reason for international conflicts. Other international and intra-national conflicts arise because of the depletion of the natural resources, deforestation, flooding and pollution etc.

The impacts posed by these environmental conflicts include:

1. Conflicts over environmental resources pose physical harm to both human and natural reserve bases.
2. It brings impact on productivity levels and economic development of the nations and affects globally.
3. It affects the livelihood and health of either one or both the parties in conflict.
4. It also exacerbates poverty and inequality among developing nations.

Types of Environmental conflicts earth is witnessing are:

Biodiversity conflict- This type of conflict arises between human, wildlife or other aspects of biodiversity [4]. These conflicts majorly include the issues related to the conservation of protected areas, their limited resources, green technologies and also in demand for the fair trade of indigenous natural resources. These conflicts can occur internationally and have serious implications, and require conservation and environmental management policies formulated and implemented in a holistic way to balance the needs and interests of conservation and people. Natural resource management conflicts, a major part of biodiversity conflicts, are complex because of the involvement of multiple stakeholders and parties.

Coastal zone conflicts- *These conflicts between two or more nations may arise* in offshore waters due to oil exploitation, ocean dumping, mineral mining and excessive fish harvesting. Conflicts may also



arise due to high development demands, high population density, environmental degradation and poor and fragmented management to balance conservation and development of coastal zones.

Conflicts about air quality- These conflicts relate to issues with social justice and the right to live in a clean and healthy environment. Most of these conflicts in any nation or at global level occur in the favor of handing over the more sustainable world to the next generations. These conflicts may arise as local demonstrations and legal disputes between residents and other parties. Environmental activists take part by mobilizing communities to assert their rights; there are also incidences of violent protests and conflicts.

Climate change and environmental conflicts- It is widely recognized that climate change has significant impacts on social, economic and ecological systems. Due to these impacts, rise in socio-economic inequalities occur locally as well as globally [5]. Investigation of climate change needs to include the relationships between global processes (including emission effects and international conventions), national responses and local outcomes, and particularly the effects of national decisions and policies on local opportunities and abilities to adapt. Thus, aspects relating to environmental conflicts are significant to consider [6]. There are a range of direct and underlying drivers, fundamental needs and desires of individuals and groups, affecting the natural environment and intensifying climate change. The direct drivers associated with climate change are land clearing, land cover conversion, the introduction of alien species, agricultural practices, fossil fuel and biomass burning, poor water use and management practices. The underlying human-induced drivers include an upsurge in demand for a varied range of goods and services including basic needs, transport, recreation and leisure activities, safety and security, and entertainment and luxury items [7].

Environmental Cooperation

Many developing countries have been facing environmental conflicts including urban air pollution, water pollution, deterioration of health environment, forest and soil degradation, loss of biodiversity, and marine pollution. A combination of various factors including population growth, urbanization, industrialization, and poverty plays a major role in enhancing the problems. The world as a whole is facing wide-ranging issues such as climate change and acid precipitation due to trans-boundary pollutants discharged from many countries. Many of such countries had taken the first steps to halt environmental degradation locally in their countries, but they came up with the understanding that the global environment and common resources of the world might not be protected if every country looked after only its national environmental interests. These crisis conditions required immediate



global attention and action. Advantages of international environmental cooperation to curb environmental degradation became understandable. Starting from the Stockholm conference, many other agreements like the Kyoto Protocol and Paris agreement came into existence.

Goals which were addressed in the environmental cooperation are:

- Reduction of global pollution to achieve zero pollution
- Maximum utilization of renewable energy resources and reducing the consumption of non-renewable energy resources, also initiatives for the development of alternatives for energy production
- Judicious use of scarce resources such as water, land, and air also initiatives for sustainable long term use and conservation.
- Protection of the unique ecosystems and preservation of threatened and endangered species from extinction
- Protection of biodiversity and ecosystems by establishing nature and biosphere reserves.

Some Important Environmental cooperation conventions:

Stockholm Conference- It was the first United Nation's conference that focused on international environmental issues. This conference was held in Sweden from June 5-16, 1972, and laid the foundation of global environmental governance. The final declaration of the conference was the statement declaring finite nature of the earth's resources and the need to safeguard them. It led to the formation of the United Nations' Environment Program (UNEP) in Dec 1972, the role of which was to coordinate the global efforts in promoting sustainability and safeguarding the natural environment [8].

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)- This international agreement was adopted in March 1973, to regulate the worldwide commercial trade in wild animals and plant species. The goal of this convention was to ensure that international trade does not threaten the survival of any species. CITES was adopted in Washington DC on March 1973 and came into force on July 1, 1975. It classifies plants and animals in categories based on how threatened the species are. The List I consist of endangered species at the risk of extinction, List II includes species not threatened with extinction but at a serious decline and List, III includes species have protected status at least in one country [9].



United Nation Conference on Environment and Development (UNCED)- also known as Earth Summit and Rio de Janeiro Summit. It was held in Brazil on June 3-4, 1992 to reconcile worldwide economic development with protection of the environment. Most of the world's nations committed themselves to the pursuit of economic development in ways to protect non-renewable resources and earth environment. Treaties of the Convention of Biological Diversity and UN Framework Convention on Climate Change were signed in the conference. Declaration on Environment and Development was laid out for environmentally sound development. Statements were released regarding the protection of forests. Nearly a decade later Earth summit II was held in Johannesburg, South Africa from 26th August to 4th September to discuss sustainable development organizations. It particularly established type II partnership facilitating the inclusion of civil and private actors [10].

Kyoto Protocol- It was an International treaty linked to the United Nations Framework Convention on Climate Change, adopted in December 1997 that aimed to reduce the emission of "greenhouse gases" that contribute in global warming. It came into force in 2005 and protocol was set to reduce 6 [carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF₆)] greenhouse gases in 41 countries. Article 3 of the Kyoto protocol contains the joint commitment of industrialized countries to reduce and regulate the greenhouse gases emission by at least 5% below the 1990 level in the commitment period of 2008-12. It was based on the principle of common but differentiated responsibilities to be shared, by acknowledging the limited role of developing countries in climate change and putting obligations on developed nations to reduce the current greenhouse gases emission as those developed nations were more responsible for the current status of greenhouse gases [11].

Paris Agreement- This agreement was signed in December 2015 to reduce "greenhouse gas emissions" in order to combat global warming. It was intended to improve on and eventually replace the previously established Kyoto Protocol. The Paris Agreement, ratified by 197 nations, entered into force on November 4, 2016. The main striking point of negotiation was the issue of transferring funds from developed countries to less developed countries. The accord aimed to hold the increase of global temperature to below 2 degrees Celsius. This agreement emphasized the cooperation, transparency, flexibility and regular reporting of progress in achieving intended nationally determined contributors. Each country is indicated to determine, plan, and regularly report on the contribution that it undertakes to mitigate global warming [12].

2021 United Nations Climate Change Conference (COP26)- The COP stands for "Conference of the Parties," and this was the 26th annual summit held on November 13, 2021, in Glasgow, Scotland,



UK. Ahead of the conference, 200 nations were requested to submit plans to reduce emissions by 2030. During COP26, countries examined climate commitments made under the 2015 Paris Agreement and the Glasgow Climate Pact was signed by 197 nations as a new non-binding agreement. This pact aimed at staving off dangerous climate change. More than 140 countries have committed to achieving net-zero emissions, which accounts for 90% of world GDP. This pact has been formed with the goal of making the 2020s a decade of climate action. The decision package includes a variety of agreed-upon topics, such as increased efforts to improve resilience to climate change, reduce greenhouse gas emissions, provide the required financing for both. Nations reiterated their commitment to meet the offer of 100 billion dollars per year from industrialized to underdeveloped countries. They also committed to work together to close the gap between existing emission reduction plans and what is needed to cut emissions so that the global average temperature rise is restricted to 1.5 degrees Celsius. For the first time, nations are being encouraged to phase out unrestricted coal power and expensive fossil fuel subsidies. The world's two largest CO₂ emitters, the United States and China, have agreed to work together more closely over the next decade on issues such as methane emissions and the transition to clean energy. China has previously been hesitant to address domestic coal emissions, so this was interpreted as acknowledging the need for immediate action. Leaders from almost 100 nations, which account for around 85 percent of the world's forests, pledged to halt deforestation by 2030. More than 100 nations have agreed on a plan to reduce methane emissions by 30% by 2030. Financial institutions with a combined market capitalization of \$130 trillion decided to support "green" technology such as renewable energy and divert funds away from fossil fuel-burning sectors [13].

Conclusion

Environmental conflicts may arise in different forms and have varying impacts in different circumstances. In particular, key points of global conflict are concerning exploitation of resources, increasing climate change, conservation of resources and biodiversity, better water quality and availability, safe air quality and also its management aspects. International environment cooperation brings together various actors (parties) under one roof with the goal of halting the ongoing environmental degradation. For a sustainable and healthy future, industrialized nations must limit their pollution discharge into the transboundary environment of less developed nations. Conflicts arising due to injudicious division of natural resources can occur internationally and have serious implications,



and require conservation and environmental management policies be formulated and implemented in a holistic way to decide the sustainable use of resources.

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