GLOBAL ENVIRONMENTAL MANAGEMENT: RIO EARTH SUMMIT AND BEYOND

ABSTRACT

THESIS

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Summary
“Environment” does not observe boundaries. Air, water, forests and land are contiguous and are inherently structured and designed to join and bring people together and their nations closer. Ironically “nature” that existed to create relationships of interdependence even amongst the antagonists has now become a hot bed of international politics. The emerging statistics of resource scarcity and the widening income gap between the developed and the nations is once again threatening the world with a disaster more devastating than the Second World War. The environmental contingencies are defying both the meteorological forecasts as well as the indigenous wisdom. The last century was the warmest century in the past 600 yrs. Some of the worst environmental calamities like floods, droughts, cyclones and earthquakes occurred during the last decade. Most of the low-lying areas in the world are getting inundated and the number of ecological refugees has been growing at an unmanageable pace. Environment has become a political problem of the highest order. Global warming, greenhouse effect and el-nino, is the new terminology, which baffles the decision makers and perplexes the technology studies. International politics today may be called a politics of designing green economics.
The environmental problems are increasingly escaping the control of individual status and international institutions have often been too weak to step into the breach. The result has been a "decision-making deficit", an erosion in the ability of government to address environmental problems effectively. It is hard to imagine how problems such as global climate change will be successfully addressed. The international environmental agreements have been developed through a consensual rather than an authoritative process. States realized that they cannot solve some transnational as well as global environmental problem through individual action, so they agree to collective actions by means of a reciprocal exchange of promises—for example, to limit their use of ozone-depletion substances or to impose restrictions on the import and export of endangered species. Now, environmental deterioration has become a serious problem and it cannot be studies in isolation. It is affecting the lives of people and collaborative effort is needed to tackle the problem.

We are at a crossroads in the history of international relations. Our collective actions will determine whether we take a road toward over-exploitation and abuse of our natural resources, or the high road toward alleviating poverty and environmental deterioration. We bear a heavier responsibility for the future health
of the planet than any previous generation. We have accumulated unprecedented wealth of scientific information and improved tools for analysis and prediction and we have gained enough technological and institutional experience to take the necessary actions.

The proposed thesis on Global Environmental Management highlights the important environmental treaties and agreements from 1972-2002. It talks of global politics on environmental issues. Global environmental politic is all about the tremendous gap that has prevailed and is consistently maintained by the rich nations of the North by controlling and extracting the resources from the poor nations of the south. This is exacerbated by the fact that while the North controls the technology and science, the South nurtures its rich biodiversity and other natural resources. Most importantly, the issue of extending environmental rights to human rights has been discussed in detail, highlighting the fact that protection of the environment has become very essential for enjoyment of first and second generation of rights. It seeks to address primarily some important questions. Do states comply with the international environmental obligations they undertake? Are the obligations designed in a way that actually addresses the problems that treatise intended to solve? Is environment an important variable?
Chapter 1 enumerates various environmental issues and perspectives of present times. Environment and its protection, is now counted as one of the most important issues to be tackled efficiently for existence of mankind. Environmental law and planning is linked with the future of mankind. Some of the major sources of modern global environmental laws are 1972 UN Declaration on Human environment, 1982 World Charter for Nature, 1992 Rio Declaration on Environment and Development, and the 2002 Johannesburg Declaration on Sustainable Development. The global Environmental management calls for high level of cooperation and policy coordination among states.

The environmental politics involve differing North-South dimensions. The West is more scared about the exhaustion of non-renewable resources, pollution, etc, but the developing countries are more concerned about poverty and population problem. This asymmetry has created considerable tension in the climate change negotiations. The concept of sustainable development has been proposed to be most suitable method for sustaining the environment for present as well as future generation. Globalization has tremendous effect on environment. Though globalization acts as a catalyst to economic growth but negatively affects the life of people in other parts of the world. Another important perspective
of environmental management is its relation with international trade. The link between trade and the environment and the effort to protect environment has led to the polarization between economists and environmental activists. There is need of utmost cooperation among the various states to deal with environment protection.

Chapter 2 gives detail account of historical perspective of environmental agreements. International environmental issue penetrated into international politics in late 60’s. Certain publications such as ‘Silent Spring’ in 1962 and ‘Limits To Growth’ in 1972, brought fourth the plundering of nature by man. The first international conference on environment came in 1972. It adopted a Declaration on Human Environment, which formulated principles for the management of the environment. The goal of the conference was to preserve and improve the human environment for the present and future generations along with social and economic development. The Stockholm Conference laid formation of UNEP which worked for the protection of environment in all fields. It opened the gateway to many conferences in future. In 1982, World Charter for Nature was adopted which focused on the fundamental concept such as man is part of a nature, civilization is rooted in nature, every form of life is unique and man must fully
recognizes the need to maintain and stabilize nature and must conserve natural resources. Likewise many regulations came up due to increasing deterioration of environment and public awareness. Vienna Convention was formulated for the protection of ozone layer and Montreal Protocol was adopted to put restrictions on greenhouse gases. There are hopes that better use of science and technology will help shape an ecological and balanced global society.

Twenty years after Stockholm Conference, a landmark achievement in the field of environmental protection was Rio Earth Summit in 1992. **Chapter 3** discusses in detail United Nations Conference on Environment and Development (1992), also known as Rio Earth Summit. It launched an unprecedented effort to tackle the environmental injustices of pollution, resource depletion and declining biodiversity and the social injustices of poverty, hunger and inequality. Five texts emerged from the meetings- The Rio Declaration on Environment and Development, Agenda 21, Statement of Principles of Forest, Climate Change Convention and Biodiversity Convention. The Rio Declaration emphasizes on establishing a global partnership by all the nations of the world to work towards the protection of environment and also creation of
international agreement which respects the interest of the global environment and development system. It calls for 'precautionary approach' and 'polluter shall pay' for environment protection. Another important document was Agenda 21 which is considered to be an important pillar of Rio Earth Summit. It is an environmental action for 21st century. It sets the basic principle as well as the overall framework within which the international community shoulders its burden of responsibility to protect environment. The statement of principles of forest was adopted to deal with the widespread problem of deforestation. Deforestation is fast becoming one of the most pressing environmental issues. It advocates reforestation and forest conservations. Among the two conventions agreed at Rio are Climate Change Convention and Biodiversity Convention. The objective of the Climate Convention is stabilization of green house gas concentration in the atmosphere. The biodiversity convention obligates countries to protect plant and animal species through habitat preservation and other means. Precisely, it can be said that Rio Earth Summit has held to fix environmental issues on political agenda. It was a major
conference which laid road to future agreements on environment.

**Chapter 4** studies Post Rio developments especially Kyoto Protocol and World Summit on Sustainable Development. Several actions were taken at the individual country levels, including the formulation of national environmental policies and action programs. There has been increased recognition of the global and multidimensional characters of environmental problems and potential remedies in post-Rio period. Many agreements came up such as International Convention to Combat Desertification, International Conference on Population and Development, Earth Summit +5, all of them emphasize different issues effecting the environment. Kyoto Protocol was an international effort to curb greenhouse gases emission and to bring global warming under control. Its objective is to achieve “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”. Another Significant Summit came in 2002 (World Summit on Sustainable Development) to take stock of achievements, challenges and new issues arising since the ground-breaking 1992 Earth Summit in Rio de Janeiro. The Summit reaffirmed sustainable development as a central element
of the international agenda and paved the way for the practical and sustainable steps needed to address many of the world’s most pressing challenges. Commitments were made on specific time-bound targets and goals, including some important new targets related to basic sanitation, the use and production of chemicals, the maintenance and restoration of fish stocks and a reduction in the rate of biodiversity loss. New issues were brought into sharper focus, such as sustainable production and consumption patterns, energy and mining.

Chapter 5 explores the relation between Human Rights and Environment. It addresses chief issues such as extension of environmental consideration to human rights, environmental rights in existing human rights treaties, development versus environment issues etc. Environmental rights are the only human rights that are intrinsically tied to the welfare and interest of future generation as moral person and that provide reciprocal benefits for present generations in arguing for beneficial environment policies. Like human rights, environmental law touches upon all spheres of human activity. We cannot talk of human rights unless we talk of the rights to live in a safe environment. The right to life has a higher status within the hierarchy of human rights norms. If one cannot breath clean air and have safe drinking water and healthy
food, how can one talk of human rights. The question of environment protection is not only linked to the quality of life but to the very survival of millions of people. Large scale destruction of forest and vegetable cover, contamination of rivers and other water bodies, rise of air pollution in the urban areas, is the beginning of the end. Environment has become an important variable on which enjoyment of all civil, political, social and economic right, depends. **Conclusion** gives insight to various diplomacy involved in protection of the environment, the complexities of environmental issues and its relevance to human beings. It incorporates various suggestions which can be helpful in dealing with various environmental problems in future.
DEDICATED TO
MY
FATHER
(LATE) MR. IFTIKHAR AHMAD
CERTIFICATE

This is to certify that the thesis entitled “Global Environmental Management: Rio Earth Summit and Beyond” is to the best of my knowledge an original work carried out by Miss. Shaista Ahmad under my supervision and is suitable for submission for the award of Ph.D. Degree in Political Science.

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SHAISTA AHMAD
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International Convention to Combat Desertification
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ABBREVIATIONS

C.D.M. Clean Development Mechanism
C.O.P. Conference of Parties.
F.A.O. Food and Agriculture Organization
I.C.C. P.R. International Covenant on Civil and Political Rights
N.G.O. Non Governmental Organization.
O.E.C.D. Organization of Economic Cooperation and Development.
U.N.D.P. United Nation Development Programme.
U.N.E.P. United Nation Environmental Programme.
W.H.O. World Health Organization.
W.M.O. World Meteorological Organization.
W.T.O. World Trade Organization.
Journals

2. B.S.R.    Business & Society Review.
3. E.P.      Environmental Politics.
5. U.N.C.    United Nation Chronicle.
Environment is an important asset for healthy life. It envelops us and provides us with the essence of life. Without a healthy environment, our ability to function and thrive is significantly diminished. In fact, continued human existence depends on having a healthy environment. But this environment is heavily plundered in present times. The nomenclature of present environment is excessively disturbed due to global warming, ozone depletion, deforestation, desertification etc. Today, Humanity is in the midst of a profound civilizational change. Industrial revolution has brought a significant change in the life of people but has caused a huge negative impact on the environment.

Since the beginning of the seventeenth century, scientific discovery and invention have advanced at a continually increasing rate. This fact has made the last three hundred and fifty years profoundly different from all previous ages. The gulf separating man from his past has widened from generation to generation, and finally from decade to decade. A reflective person, meditating on the extinction of trilobites, dinosaurs and mammoths is driven to ask himself some very disquieting questions. Can our species endure so
rapid a change? Can the habits which insured survival in a comparatively stable past still suffice amid the Kaleidoscopic scenery of our time? And, if not, will it be possible to change ancient patterns of behaviours as quickly as the inventors change our material environment? No one knows the answer. Will scientific advance continue to grow more and more rapidly, ignoring its consequence on nature? That needs to be contemplated seriously.

It is disturbing to realize that our attitude towards our environment has caused such havoc that it has become most discussed topic in international relations. Front page headlines, national and international conferences, political speeches and summit communiqués, and United Nations Commission and Declaration worked together to raise awareness of serious threats to the global environment and the urgent need for concerted international responses. The economic gulf which lies within and among the world's peoples and nations, are daily deepening. Hunger and poverty—which are both a cause and effect of global environmental degradation are still appallingly pervasive in the developing world, where population growth compounds the problems of alleviating them. Industrial countries continue to be addicted to the patterns of
production and consumption which have so largely produced the major risks to the global environment.

There is no lack of imperative for action. The buildup of carbon-dioxide and other greenhouse gases in the atmosphere threatens far reaching climate changes. One class of these gases the chlorofluorocarbons, have added distinction of deleting the stratospheric ozone layer, which shields us from the harmful ultraviolet radiation. In the U.S. and in Europe, air pollutants are escaping urban-industrial areas and invading the countryside, seriously damaging aquatic life, forests, and crops. In the developing world, pressures on natural resources intensify daily. The deserts advance, while the forests with their vast biological wealth -- retreat. Hundreds of millions of people live in absolute poverty, destroying the resources on which their future depends, because no alternative is open to them. Environmental degradation and poverty feed on each other in a vicious way.

We must transcend differing North-South perspectives, for these environmental concerns present us with new policy challenges that are global in scope and international in implication. Human activities worldwide are diminishing the earth's capacity to support
life, at the same time that growth in population and consumption intensifies demands for finite natural resources. The combination of an affluent, resource-consuming minority and a poor majority struggling to stay alive is upsetting the global balance between human consumption and the earth's productive capacity.

We are coming to realize that the deterioration of the global environment is now at a scale that encompasses the great life-supporting systems of the planet. We are altering the earth's climate and biogeochemical cycles, stockpiling dangerous wastes, exhausting soils, and destroying forests and other ecosystems, along with their biological communities.

Concentrations of carbon dioxide have varied greatly over past millennia, but in the 160,000 years for which we have a continuous record they have never before reached today's level. Global Warming caused by greenhouse gases already emitted into the atmosphere may be unavoidable. Within a few decades, the planet's average temperature may rise and alter regional climates. Our species will probably survive, but the cost of adapting to such climate change could be tremendous -- and unduly burdensome for already-strapped developing countries. Future warming, however, will not be limited
to the effects of past emissions. Accordingly, today's decisions about energy policy, land use, and agriculture will determine both the rate of future emissions and the timing and severity of global change.

While human activities that alter the composition of the atmosphere are generally understood, the severity, timing, and geographic distribution of the impacts are not. Obviously, the difficult question is what actions are warranted in the face of such uncertainties? We can take actions that have multiple benefits—actions that besides slowing the rate of climate change would have other environmental and economic benefits. For example, improving energy efficiency would reduce the risks of climate change and air pollution, and reduce oil import bills. Slowing deforestation rates would reduce soil erosion and improve watershed conditions while reducing the biotic contribution of CO₂. With such multiple objective strategies, if global warming does not materialize at the rates now predicted, we will still reap the benefits.

Our concern for the atmosphere must be matched by a growing awareness of the steady deterioration of forests, soils, and water in much of the developing world. In developing countries, ten trees are cut down for every one planted; in Africa, the ratio is, 30 to one.
Every second an acre of tropical forest disappears. Fuelwood shortages affect an estimated 1.5 billion people in 63 countries. Most people lack access to basic sanitary facilities, and 80 percent of all illness is due to unsafe water supplies. Developing country people now rank high in exposure to toxic chemicals -- from lead in Mexico to DDT in China.

Despite all the twentieth century's scientific and technological advances, there have never been so many poor, hungry, illiterate, or unemployed people in the world and the numbers are growing. Nearly one billion people are living in poverty and over 700 million suffer from chronic malnutrition. Such suffering is occurring while large surpluses exist in the industrialized world. We live in a world where abundance and waste exist side by side with extreme deprivation and where many people's very existence is in danger due to over-exploitation of their natural resource base.

Environmental degradation exacts a price in any country, but the long-term cost is most apparent in developing nations where such degradation directly impacts the food and fuel supply of the rural poor, particularly women and children. Developing countries are many times more dependent than industrial countries on their natural
resources -- their soils, fisheries, forests, and minerals. Yet, this resource base is eroding rapidly under pressure from unprecedented population growth, deep-seated social inequities, and inappropriate policies. Nowhere these problems are more pronounced than in sub-Saharan Africa. In the past decade, Africa has experienced a 20 percent decline in per capita food production. Production grew by 1.5 percent per year during the 1970s, but dropped to 1 percent in the 1980s. Such small growth rates in food production have been outstripped by a population growth rate of 3 percent, the highest in the world today. The consequences of resource degradation eventually manifest themselves as economic costs. Desertification and soil loss, for example, undermine agricultural production.

We have tended so far to focus on symptoms, reducing little, Pollution here, cleaning a hazardous waste dump there, or planting few trees on an eroding hillside. It is time we face the underlying causes of these problems head-on. At least five major economic, demographic, and political forces drive the process of natural resource and environmental degradation. Growing demand for commodities such as tropical hardwoods, wildlife, fiber, and agricultural products contributes to deforestation. Rapid population
growth -- even without proportional economic growth steps up the pressure on natural resources that are already impoverished. Inappropriate land tenure arrangements discourage rural people from investing in sustainable agricultural practices. The external debt burden leads governments to encourage resource depletion for export revenues and to neglect their growing environmental problems. Energy policies encourage inefficiency and the production of gases that contribute to air pollution and the risk of global climate change. Addressing these challenges at the scale needed to reverse current trends in the developing world will require political leadership and social risks in unpopular areas such as price adjustment, land reform, and population and poverty alleviation programs.

Environmental concerns can no longer be an afterthought, an add-on, or a conditionally. In order to successfully deal with these challenges -- whether global warming, ozone depletion, or poverty and environmental degradation -- the environment must be factored into the very thinking of development and economic growth. One effective strategy for integrating environment and development is the concept of "sustainable development" -- that is, economic development that will meet the demands of the present without
compromising the future.

The proposed thesis scans the various important environmental agreements from 1972 to 2002. **Chapter 1**, focuses on various environmental perspectives and challenges. **Chapter 2**, highlights the historical perspective on environment agreement from Stockholm to Rio Earth Summit (1972-1992). **Chapter-3**, discusses in detail the various agreements at Rio Earth Summit, especially Agenda 21, Climate Change Convention, Forest Principle and convention on Biodiversity. **Chapter-4**, incorporates the post Rio period from 1993-2003, discussing in detail the Kyoto protocol and World Summit on Sustainable Development (WSSD). **Chapter 5** brings out the relationship between healthy environment and human rights, laying emphasis on the fact that enjoyment of first and second generation of rights, depends on healthy environment. Therefore, deterioration of the environment should be taken seriously. In conclusion, various suggestions are made, that can be helpful in dealing with the environmental problems.
Chapter 1

Environmental Issues, Perspectives and Challenges
The term environment is new in many languages. In French, its origin goes back to the 12th century verb “environner” but the word environment has been most prominently used since the beginning of the 1960s. English dictionary (Collins cobuild) defines environment as,

“Natural worlds of land, sea, air, plants, and animal”

UNESCO uses the term “biosphere” which designates the totality of human environment. It comprises the earth and several thousand meters above and under the surface of the earth and oceans.¹ International and national legal instrument include many definitions of environment. A legal text adopted by the council of the European Economic Community on 27th June 1967, defines environment as,

“Water, air and land and their interrelationship as well as relationship between them and any living organism.”

An Indian author interpreting article 48A, of the Indian constitution related to environmental protection states that the word “environment” means the
“Aggregate of all the external conditions and influences effecting life and development of organ of human beings, animals and plants.”

Section 1 of the British environmental protection Act 1990, defines environment as,

“The environment consists of all or any of the following media, namely the air, water and land and the medium of air includes the air within buildings and the air within other natural or man-made structure above or below ground.”

Thus man-made environment, whether it consists of building, monuments or different structures or landscapes are considered as a part of the environment to be protected against deterioration. Law and policy are responding to increasing environmental deterioration, produced by natural causes, such as volcanic eruption, and by human intervention. During 1960 a series of legal texts recognized the urgent necessity to protect the environment. Among international regulations, which often provided the basis of national laws regarding environmental protection is the 1972, Stockholm declaration which proclaims protection and improvement of human environment as it effects the well being of people and economic development throughout the world.
Environment in the Mainstream

Environment and its protection, is now counted as one of the most important issues to be tackled efficiently for existence of mankind. Ecology has become a global discipline providing a biologists view of world order. Ecology is defined as a relationship of living organism and their adaptations to the environments. Environmental law and planning is linked with the future of mankind. Some major technological developments and economics of globalization have produced an integrated world society and this has led to rapid changes in national and global environments in present times. As a result, mankind had under the umbrella of the United Nations and other legal institutions, formulated new global environmental laws to safeguard and protect environment and the ecology of the earth. Some of the major sources of modern global environmental laws are 1972 UN Declaration on Human environment, 1982 World Charter for Nature, 1992 Rio Declaration on Environment and Development, and the 2002 Johannesburg Declaration on Sustainable Development. These are the major declarations on the global environment that had come to shape largely the present world law and society. There has been change in the economic perspective also. The World Trade Organization has produced a new global economy by removing
national restriction on free movement of world trade and commerce by new reform in economic policies. Special attention is also taken in integrating values into the environmental laws. A society’s perception of the role of the environment, its current status and expectations for the future are among the major determinants of the evaluation of norms, standards and principles governing the environment. Furthermore, these ‘feelings’ and ‘sentiments’ of a society are usually weighed, by the governing local and domestic institutions, against potential trade-offs with other competing values in accordance of priority. The translation of these values occurs through the domestic polity and its interactions with the international institutions. Thus while, framing laws, societal acceptance and values are also taken into consideration.

Is Law Necessary to Protect The Environment?

When public opinion or interest groups ask the national government or authorities of the state to do something to protect an area or to stop pollution or to remove the disposal of waste, the proposed authority will need certain rules and regulations to act upon it. It is thus very necessary to have laws and regulations upon which the authorities can act. Hence it is very necessary to
understand the role of law in environmental protection. In general view, law can be considered as binding norms adopted by public authorities and which come into force through valid procedures. The obligatory character of the law can help to ensure the enforcement of regulations and can prevent behaviours and acts which are detrimental to the environment. However, non-binding principles and rules of many declarations or international organization or conferences have played an increasing role in international law, especially in environmental law. It acts as a guiding principle for the states and various non state actors in the protection of the environment. During the beginning of the “ecological era” particularly during 1970, there was general trend towards the development of environment regulations which were considered as a general remedy to pollution and diminishing world’s flora and fauna.7

During the period of 1980, there was general disillusion that laws regarding environment are not effective in its application. But the unconditional belief that law can solve all the environmental problems is certainly unrealistic. A better understanding of the place and role of law in the present world helps to keep the right balance. The laws also provide other forms of intervention such as incentives, disincentives and the creation of management tools.
Hence in order to provide effective protection of the environment, the approach should be based on reliable scientific findings, the existence of adequate technological means and also on economic social and cultural realities. Environment has been assessed as one of the fundamental values of the world community as its preservation and protection are the conditions of the survival of mankind.

Why is International Law Needed?

International law is a legal system that governs relation between states and also between states and international organization which are themselves created by the rules of international law. Since the beginning of the 20th century, there has been international resolution of problems concerning national resources and the environment. In 1968, the Council of Europe, a regional organization, adopted the European water charter, which is one of the first international instruments relating to the environment. Water pollution is one example of international environmental problems. Any significant impact on the environment produces effects outside national boundaries such as catastrophe caused by the Chernobyl nuclear power accident or ‘acid rain’ which harm lakes and forest in distant countries. Many
phenomena have global ramification and can be only understood and combated on international scale such as desertification, reduction of the world genetic heritage, depletion of the ozone layer, global warming. Likewise, ocean pollution and atmospheric pollution affects the world environment. Such interrelationships necessarily have international consequences. Economic factors also plays an additional role in internationalizing efforts to safeguard the environment. Hence all such things have contributed to the evolution of national and international laws in context of environment.

The Politics of the Global Environmental Management

Human being now face large range of Environmental problem that are global in nature. They effect every state of the world. It can only be tackled with cooperation among the states such as in problems like controlling climate change and the emission of greenhouse gases, the protection of the ozone layer, safeguarding bio-diversity, protecting special regions such as Antarctica, the management of the sea bed. Certain environmental deterioration such as deforestation, desertification, salination, water or fuelwood scarcity, have effect the political and social interests of developed country. The repercussion of
these problems leads to degeneration of economic base of the poor states and exacerbates increased flow of refugees. The affluence of the industrialized countries and the poverty of the poor country have also been considered to have contributed toward environmental deterioration. This has shifted the attention towards sustainable development. It has become a global issue both due to economic interdependence of the states and also because it raises the fundamental question regarding distribution of wealth, power and resources between North and South.\(^{11}\)

The global Environmental management calls for high level of cooperation and policy coordination among states. With the coming of twentieth century, economic dependence has increased. There has been growth of international organization and also the development of international laws stating rights and duties of every state. Global Environmental management, still poses a serious challenge since it involves the creation of rules and institutions that embody notions of shared responsibilities and duties. It gives mandatory rights and duties to citizens and institution within state, including a notion of a common good for the planet as a whole. Environmental issues are still a necessity to be managed within the constraints of a political system consisting of sovereign states. Apart from it, various non-state actors also play a significant role.
in determining environmental policies by the government. Political pressure from business and concern about the impact of environmental regulations on specific industries can often make states to disregard international actions. The role of environmental NGOs, also counts in environmental politics. The activities of environmental NGO’s have assumed a significant place in issues of identification, agenda setting, policy formation, normative development, monitoring and implementation of Environmental policies. The environmental politics also involve differing North-South dimensions. The developed countries face different Environmental problems from developing countries. The West is more scared about the exhaustion of non-renewable resources, pollution etc but for the developing country as, Indira Gandhi, put it during Stockholm conference, “Poverty is the greatest pollutant”. Hence the developing countries are more concerned with poverty, population etc as compared to environmental deterioration. Also the entry of non-national actors brings local struggle under an international spotlight, permitting foreign powers to intervene in national issues. With the WTO regime now intervening even in issues like drinking water and helping convert ‘free’ resources into commodities, where rights of investors are placed at par with
consumers, we seem to have entered into a new, possibly frightening world.14

The environmental movement grew in the 1980s and 1990s building upon the work of thousands of civil society groups and individuals spread across the country. The environmental movement has received considerable support both from the media and the judiciary. Its relationship with the political and bureaucratic system have always been weak and often in conflict with each other. The environmental movement has sharpened rapidly over the last three to four decades. It has played an important role in creating public awareness about the importance of bringing a balance between environment and development and also in organizing model projects that showed the way forward towards non-bureaucratic and participatory, community-based natural resource management systems. The environmental movement faces many challenges in its accomplishment. The rapidly growing problem of pollution because of uncontrolled economic development, and further fuelled by bureaucratic corruption and incompetence, demands scientific expertise, which is still lacking and also the environmental groups are still handicapped in pushing through policy and legislative changes. The rising problem of ecological globalization based on global
rules are dominated by the economic interest of the north and fighting for unjust ecological globalization demands substantial financial and intellectual resources as the northern environmental group tend to set global movement agenda on their own.\textsuperscript{15}

The uproar from the environmental group and many leaders of the world, could not bring effective results. There were little effective environmental action at the global level. When such was the urgency to protect the environment, then why the environmental efforts could not produce any powerful results? For the most part, global negotiations for environmental protection and economic development have been conducted separately, resulting in lack of common interests, institutional relationships, sometimes, even language. There was also unequal distribution of finance on the various environmental projects. Efforts to evolve multilateral institutions therefore did embody the tensions of not only traditional North-south inequalities but also the ongoing divides between ecology and economy, regulation and profitability, public and private interest. Over all, the government had not been much interested in environmental issues as in economic ones and even where ministers within one government have agreed on policies, northern and southern government have differed on which environmental issues were most important for the globe. In the
north, the global environment has meant essentially stratospheric ozone, climate change, seas and biodiversity, while on the other hand southern government’s environment ministries tend to have more concern for deforestation, soil erosion, poor air and drinking water quality. Developing countries were adamant that their ‘right to development’ should not be sacrificed in order to protect the environment and in their view, it was the economic growth pattern and ‘footprints” of the current industrialized countries which are responsible for environment. Problems. But this does not mean that people all over the world were not ecologically aware and active, only that they were more interested in having local action in environmental protection.

In the present times, there has been virtual explosion of intergovernmental negotiation to formulate international environmental treatise. This ‘ecological globalization’ is an inevitable result of the ongoing processes of economic growth and economic globalization, which knits the world’s economics together and also makes national production and consumption levels to a point that threatens the worlds ecological systems. The process of ecological globalization is driven by the fact that levels of production and consumption have reached a stage that what one does in one’s own country has major impacts on neighbouring
countries or even on the rest of the world. Simple acts in a country have global repercussion now. The use of air conditioner or refrigerator can today destroy the world’s ozone layer, or using persistent organic compound like DDT in India can mean life threatening pollution for human beings and other life forms in the remote polar regions of the world. Never before the human beings have learnt to live in ‘one world’ as now.¹⁷

But this ecological globalization is not accompanied by any form of political globalization and a result no political leader is sincerely interested in ensuring environmentally sound policies. There is no effort to make emerging global market or emerging global ecological policy, in the best interest of the maximum number of people. In fact, the emerging rules and regulations are generally based on the principles of business transactions and therefore, environmental diplomacy has turned into petty business transactions built on principles of mutual benefits, regardless of their societal costs. Precious little can be done to bring about the needed technological transformations in the next few decades. During this period, the traditionally high emitters of greenhouse gases will continue to emit high quantities, while traditionally low emitters of GHGS, especially those witnessing high economic growth rates, will also becomes high emitters. High emitting
nations argue that efforts made exclusively by them to reduce large quantities of GHG emissions will not only be negated by the increased emissions from developing countries but also impose a high cost on their corporations, making them globally uncompetitive. They argue that such efforts will result in relocation of polluting industries resulting in economic and job losses in the west. It is a burden that they cannot accept. Developing counties meanwhile, point out that being late entrants to western style of economic development, their populations are economically poor, and they have legitimate right to demand an equal right to, the use of the available common atmosphere space. This asymmetry in burden sharing demanded by developing countries has created considerable tension in the climate change negotiations.¹⁸

Sustainable Development

Sustainability is now considered to be the most essential characteristic of human activities. The concept of sustainable development has a fundamental nature and serves as a basis for other new innovative concepts and principles arising within environmental conventions. Sustainable development appears in many conventions and treaties. It is considered to be integration of
ecology, economic issues and the notion of equity, both intra and inter-generational. The United Nations Development Programme has defined ‘sustainable development’ as development that not only generates economic growth, but distributes its benefits equitably, that regenerates the environment rather than destroying it, and that empowers people rather than marginalizing them. It is development that gives priority to the poor, enlarging their choices and opportunities and providing for their participation in decisions that affects their lives.

Some words like poverty, hunger, disease and debt, were very much there within the lexicon of development ever since formal development planning began, following the Second World War. Another word has been added to their group, i.e. sustainability. Sustainable development has become, one of the most prominent phrase in development discourse. This concept was widely adopted after the Stockholm conference (1972). Subsequently, under the label of ‘eco-development’, this concept was taken by many authors. Sustainable development became the central concept in the World Conservation Strategy published in 1980 and the foundation of the report of the World commission on environment and development in 1987. When it was launched in 1988, the World Commission on Environment and Development claimed
that its report set out a ‘global agenda for change’. Such ‘greening’ of development thinking was a characteristic feature of the 1980s. This became the driving concept behind the United Nations conference on environment and development in Rio in 1992.22

The phrase sustainable development is now widely employed in the fields of policy and political debate as well as research. Sustainable development has many definitions. Eckholm’s definition has strong element of social justice as he calls for economic progress that is ecologically sustainable and satisfies the essential needs of the underclass. The most prominent and highly acceptable definition is given by Brundland24 in her report “Our common future”. She defines sustainable development as development that meets the need of the present without compromising the ability of future generation to meet their own needs.25 What does this mean? It stipulates that there should be ‘fairness’ in meeting the needs of all peoples in the present generation, a “fairness” in meeting the needs of future generations and there should be ‘balance’ between development and environment preservation.26 Sustainable development fixed environment firmly on international political map and also revamped thinking and policy on global poverty.27
The ultimate question with regard to sustainable development is, whether we can sustain the development of the resources of planet earth in order to support a human population today without undermining the potential of the planet to support future generations. The answer to this question lies in the cooperation among the developed and developing countries and also in the efforts of the people as whole. Much of the deterioration caused to the environment is due to gap between the North and South and their ineffectiveness to reach to consensus regarding environmental issues. Following the Brundland report, the idea of sustainable development quickly become politically orthodox. Institutions giving grants or loans for development projects routinely demanded investigations of the sustainability and developmental components of the project. The rapid acceptance of the ideal of sustainable development is not surprising as it is interpretable in many ways. Many have regarded sustainable development as a catch phrase and just a swinging tool in the hands of policy makers and also that the value of the concept has been overrated. Even if it just considered a rhetorical phrase of the leaders, it has given new dimension to save environment along with development. Ecosystem is very important for the survival of mankind and hence it is essential to recognize the costs of
environmental and ecological damages and to inject them into the
decision making process as early as possible.

Globalization and Environment

The causes of environment degradation are fundamentally
rooted in the process of globalization which has effectively
rendered the territorial state incapable of fulfilling its traditional
functions. Globalization is defined as 'the intensification of world
wide social relations which link distant localities in such a way that
local happenings are shaped by events occurring many miles away
and vice versa. Globalization transcends national boundaries.
Social political and economic activities in one part of the world,
have significant influence on other part of global system.
Globalization also implies intensification in the levels of
interaction, interconnectedness or interdependence between states
and societies which constitute the modern world system. Hence
such co-relation and interdependence, effects the environment of
the globe too. The state system and academician are dominated by
specific interests, and feel threatened by proposals to take the
environment seriously. In order to keep environment, not a
marginalized issue, it needs to be addressed like other fundamental
issue such as gender and identity. There is relation between the
historically coincident process of modernization and global environment degradation. Modernization has led to the rupture of ecosystem tolerance, in a systematic and regular fashion, due to persistent negligence of ecosystem requirements to the logics of capital, bureaucracy, consumption and so on. There has been specific form of large scale environmental degradation regularly, as a consequence of modernity.\textsuperscript{31} Hence environmental issues should not be though in isolation but there is need to focus on the nexus between environment, development and security.

The Globalization’s effects, is latent with regard to environment. The environmental consequences of globalization can only be assessed in a long-term frame. Its effects are complex such as economic integration and expansion and all have a significant impact on environmental change.\textsuperscript{32} The globalization of the planet, is based on the intense interactivity and independence of human population growth, technological advancement, and pursuit of resources. Thus, globalization emerges as a logical and compelling anthropogenic process.\textsuperscript{33} Ecological degradation encompasses global dimension beyond cultural differences, divided political jurisdictions and diverse economic system. In present times, the nature of environmental issues in different parts of the world becomes similar due to global economic integration
resulting from free movements of capital and goods associated with the process of industrialization. Consumerism has been encouraged by the culture of modernity and the expansion of a market economy. Most environmental problems have a universal impact on people. Greenhouse effects and the general depletion of the ozone layer have affected all the people of the world while the large proportion of their main cause can be attributed to a few countries only. As problems are interrelated, one country or continent is not immune from the environmental consequence of a major disaster. A global identity can be assembled by the fear of threats to the global environment.  

There was a sudden high diplomatic profile of environmental issues following the period of Rio Earth Summit, which was largely based on activities of non-governmental organizations, who took advantage of the political space provided by the fortuitous ending of the cold war. Indeed, the ending of the cold war provided a real window of opportunity without which the environmental cause could not have been promoted so successfully at the international level. This coincided with greater awareness on the part of intergovernmental organizations of environmental issues, which has been built up since the Stockholm Conference, 1972. Due to the voices raised by NGOs and various environmentalists,
international leaders like the world bank and branches of the United nation, started recognizing the fact that link existed between the environment and development and environmental degradation. This idea was further given credibility by the Brundland Commission, which advocated the concept of sustainable development. Other reasons which also contributed to the attainment of high diplomatic profile of environmental issue were reduction in tension between the superpower in the second half of the 1980s, the lessening of ideological conflict between them and the conclusion of ongoing negotiation of practical arms reduction agreement between them. The passing of the cold war, facilitated the discussion of global problems that depended on international cooperation. With creation of this political space, the superpowers themselves were quick to seize the opportunity and primary interest in environmental concerns which has been receiving attention at the NGO and intergovernmental organization (IGO) level for two decades.  

Subsequently, environmental issue came to the forefront with political leaders, giving space to it and was more sharpened by their efforts. With globalization, environmental degradation ran side by side, having global and regional effects leading to environmental conflict whose nature reflects an asymmetric
relationship between victims and polluters. Activities such as excessive burning of fossil fuels occurring within one state may contribute to national economic growth but negatively affect the welfare of people in other part of the world. The destruction of tropical rain forests for farming and extraction of minerals is motivated by regional economic interests but its effect is global via climate changes. Deforestation in the Himalaya has global ecological ramification beyond catastrophic flooding in Bangladesh. Other examples include the destruction of a whale sanctuary in Mexico due to a Japanese multinational corporation’s industrial projects. Ecological globalization in many guises presents difficult problems not easily resolved in a traditional governance structure.\textsuperscript{36}

**Environmental Security**

Atmospheric issues are now at the top of international agenda as scientific proof mounts about the consequences of the depleting ozone layer and increased atmosphere concentrations of greenhouse gases to human health and the environment. Apart from it, the massive loss of biological diversity, deforestation, increased soil degradation, drought and desertification are issues now considered to be the common concern of all states and
peoples, and thus ripe for international action. It is considered that environmental disaster may constitute real threats to international security in the coming decades. This gave the origin of the concept of ecological security, which integrates ecological problems into the range of security issues, namely military, political and economic security.\textsuperscript{37} The emerging importance of environmental concerns to international security was emphasized in a January 1992 statement by the 15 members of the United Nations Security Council, declaring that non-military source of instability in the economic, social, humanitarian and ecological fields have become threats to peace and security.\textsuperscript{38} At the height of cold war there was no notion of environment to be considered as a significant source of insecurity. The threat of nuclear confrontation, dominated substantive debate about international security. However, with shedding of clouds of cold war and ideological deference's between the two blocks of the world, the call for a broader and more inclusive security agenda became more urgent.\textsuperscript{39}

Prominent leaders of research findings bodies, such as Jessica Mathews, advocated for redefining security in broader terms that included attention to environmental variables and for developing research in this area.\textsuperscript{40} A number of political leader, most notably, Al Gore, former US vice president, appraised the
concept of environmental security and sought its inclusion in US defense planning and policy making. With such an electrical motion in the political arena during early 1990, there emerged a sustained intellectual and academic endeavour to identify and substantiate the meaning and implications of environmental security and to incorporate these finding into the policy-making of western foreign security and defense institutions. Environmental issues had also been in realm of criticism. A number of researchers stated that environment is not the proper object of security studies and attention on it is irrelevant diversion. They further argued that applying the concept of national security to the environment would be dangerous as it may lead to the inappropriate militarization of environmental issues. A similar criticism, though coming from the more radical theory tradition, is that the concept of environmental security has been cynically used to legitimize Northern intervention into the South and to hide the structural injustices which are the root cause of environmental insecurity.

In this broader security context, it leads to a question: are we really on the threshold of an environmental crisis. One of the most powerful images is that human beings are on the verge of doomsday and the carrying capacity of the earth is in danger. There are two types of approach taken by the various activists. One
approach is pessimistic which highlights that there is adverse environmental crisis and the other group is one which has a positive approach, emphasizing that human ingenuity and innovation will ensure the control and resolution of environmental threat. The pessimistic neo-malthusian' approach lays down that with the rise in population and in environmentally damaging human activity, the available resource will be consumed up and it will be impossible to meet the increasing demand. The rise of industrializations, urbanization and deforestation are all seen as contribution to the loss of croplands soil erosion and potential threats to food production. The uneven economic growth have increased the gap between the rich and the poor, leading to greater global inequalities. And all these have carved the way for environmental deterioration, adversely. The other side of the argument stresses on the point that human societies have consistently demonstrated ingenuity in finding adaptive solutions to their environmental problems. Example of this can generally be found in advanced countries which have made significant progress in terms of environmental protection, for e.g. cities like London and Pittsburgh., renowned for their extensive pollution are now far cleaner. Industrial regions, such as around the Ruhr valley in Germany, which had unbridled air pollution until the 1960s, have
been similarly transformed. It can now be concluded that existence of environment insecurity cannot be ignored. Just making it to believe that problem is merely one of development and all that is needed is economic reform and technological innovation is too simplistic. The most underlying fact that most poor countries are unable to provide themselves with skills and capacities, that are required to resolve their most pressing environmental problems.\(^{46}\)

Even if the states are not poor, it is not necessary that they will have social ingenuity to combine fast economic growth with environmental protection. For example, China’s economic growth have led to a rocketing speed of economic prosperity over the last twenty years, with inevitable consequences in terms of environmental degradation and this is due to the lack of political reform which is widely regarded as curtailing more effective and sustained action to deal with this environmental crisis.\(^{48}\) Another important area where environment security represent some demanding challenges is in relation to those problems which have a truly global dimension. If an environmental problem goes beyond regional and local levels and becomes truly global, then it is really a difficult task to overcome it, such as climate change, water pollution etc. If the oceans were to be polluted, all the human ingenuity and collective cooperation that could be
generated would hardly be sufficient to clean them up.\textsuperscript{48} Environmental security, occupies an important place in international law, which calls for avoidance of environmental disputes which could multiply and potentially lead to armed conflicts.\textsuperscript{49} Scarcity of the resources is leading to international differences, such as scarcity of water, scarcity of land, due to desertification or to the rise of sea level, reducing the surface of lowlands and making islands disappear. “Environmental refugees” could also raise major problems for counties where they seek asylum.\textsuperscript{50}

In international law environmental security requires the application of several principles such as ecological security, because environmental instability in one part of the globe undermines ecological security of the entire planet. Secondly, there should be prohibition of ecological aggression which includes transfer of polluting substances or activities to other countries. Thirdly, there should be regular exchange of information on national and regional ecological situations. It also includes the prevention of trans-boundary environmental harm and the creation or the use of adequate mechanisms of peaceful settlement of environmental disputes.\textsuperscript{51} In short, it can be said that ecological security constitutes a new approach to international environmental
laws, highlighting the urgent need to take measures in order to avoid further deterioration.

**International Organization**

International organization plays a very significant role in promoting various issues at international level. They get involved in setting agendas and monitoring implementation through data collection and information exchange. It helps to set target and try to involve the people of all nations, to achieve those targets. It has contributed immensely in the development and promotion of activities related to the environment. It fulfills the role of providing independent sources of information and analysis of the growing environmental abuse and the associated economic and political implications. In addition to it, international agencies have been conducting and publishing environmental performance reviews of their member countries.\(^{52}\)

United Nations Environment Programme, (hereafter UNEP), is an important agency, dealing with the environmental issues. It has contributed to the development of international guidelines, recommendations and norms approved by the UN general assembly. Their proposals have an influential effect though they are not legally binding.\(^{53}\) UNEP was explicitly created to cover a
variety of environmental issues, ranging from control of air pollution and protection of the ozone layer to biological diversity. Apart from providing information about environmental quality, it also finances the protection of tropical forests, wildlife preservation and other projects. In collaboration with the World Wildlife Fund and the International Union for the Conservation of Nature and Natural resources (IUCN), UNEP launched the world conservation strategy in 1980, which aimed at preserving genetic diversity and ensuring the sustainable utilization of species and ecosystem. UNEP was given a broad coordination role to oversee the work carried out by other agencies in the areas of ozone depletion.

Many organizations focus on single or few specific issue areas such as global warming and the protection of endangered species. The World Meteorological Organization,(hereafter, WMO) conducts scientific research and is engaged in monitoring global climate change. The international Maritime Organization is concerned with reduction in pollution through overseeing shipping activities. The UN commission on Sustainable Development was created in 1993 to reflect on specific concerns with the links between development and environment and to work towards the attainment of goals, agreed in the Rio Earth Summit.
Global Environment Facility (GEF), was launched in 1991 and restructured in 1994, to fund various environmental projects and activities associated with it. GEF funds are the primary means by which the goals of the conventions on biological diversity, climate change and persistent organic pollutants are achieved. GEF projects are carried out by United Nations development programme (UNDP), UNEP and the World Bank. In 2002, 32 nations pledged nearly $3 billion, for environment projects. GEF currently funds close to 1,200 projects in 140 developing nations and countries with economies in transition, some 4,000 fund projects, implemented by UNDP, UNEP, UNIDO and the World Bank and a number of bilateral government agencies, have resulted in the phase out of approximately 180,000 tones of ozone-depleting substances. 57

International organizations receive reports on treaty implementation by states and facilitate independent monitoring and inspection. Technical and scientific advice is given to countries, combating trans-boundary environmental threats to the atmosphere, biodiversity and water resources. Commission for Sustainable Development provides funds to development and transfer of environmentally sound technologies for climate and biodiversity, in collaboration with other UN specialized agencies. 58
Hence, international organizations has been an important base in promoting environmental protection at international and national level. They release reports based on their study and research, stress on the world community to take action to stop further deterioration. In 2005, WWF, according to their study, stated that global climate change would bring hotter, drier summers to the Mediterranean and hit two of the regions biggest earners, agriculture and tourism. Jennifer Morgan, director of the WWF, stated that unless something is done to tackle global warming, the Mediterranean would not be the same place as people have enjoyed in the past. Another study, conducted by US, revealed that two large lakes swathes of Siberia are shrinking in size and 125 of them have disappeared.59

Another study released on January 31, 2005, by WWF, said that Arctic region was warming fastest, threatening the livelihoods of indigenous hunters by thawing the polar ice-cap and driving species like polar bears towards extinction by the end of the century. If nothing is done, the earth will have warmed by 2.0 °C above pre-industrial levels by some time between 2026 and 2060. Another study stated that due to melting of ice, the ocean level would rise by 1 meter by 2100, swamping homes from Bangladesh to Florida.60 Another international report, released on June 17,
2005, reported that desertification threatens to drive millions of people from their homes in coming decades, while vast dust storms can damage the health of people immensely. Two billion people live in drylands vulnerable to desertification, ranging from northern Africa to swathes of central Asia. It is estimated that 10-20% of drylands were already degraded. Growing desertification worldwide threatens to swell by millions the number of poor forced to seek new homes and livelihoods, according to the report. The United Nations Millennium Assessment, released on 30 March 2005, warns that 15 of 24 global ecosystem are in decline and that the harmful consequences of this degradation could grow much more in the next 50 years. Likewise, U.N agencies make research and release reports, thereby producing the real pictures of environmental degradation. The UN study is a synthesis of the work of about 1,300 researches from 95 countries. It is hailed as the most comprehensive survey ever into the natural systems that sustain life on earth.61

Environment and Trade

Another important perspective of environmental management is its relation with international trade. The link between trade and the environment and the effort to protect
environment has led to the polarization between economists and environmental activists. The economists giving priority to trade and its policies and on the other hand environmental activist trying hard to involve concept of sustainability into the economic sphere, leading to dichotomy between protectionism and liberal trade.

Environmental degradation can be the result of trade and trade policies for example through the transport of hazardous waste, trade in endangered species, the international exchange of pesticides, and deforestation. It is also directly related to a system of accumulation, production, distribution and exchange. The search for economic growth, the pursuit of free trade policies, as the effect of protectionist measures may generate policies, which in environmental terms are sub-optimal. Apart from all such defects, trade policy can be a vehicle through which threats to the national environment can be curbed. Solutions to environmental problems may require international agreement covering trade in certain good. Moreover, the need to harmonize national regulations ensures that a potential role exists for trade policies in respect of global environmental problems such as ozone layer depletion and greenhouse gas abatement.  

The relationship between trade and environment is complex and critical. A solution of this problem was found in word
‘sustainable development’. The notion of sacrificing today’s development to preserve the environment for the development of future generations, met with lot of resentment and misgiving. The link between environment and development was addressed in earth summit 1992 and specific principles were laid out for the protection of environment, keeping in consideration, the trade policies also. Agenda 21 set out measures on trade, especially the promotion of an open, non-discriminatory and equitable multilateral trading system that will enable all countries in particular the developing countries to improve their economic structure and living standard of the people through sustained economic growth. It also addressed the point that states have contributed differently to the environment and so they have common but differential responsibility to protect the environment. The Summit also acknowledged the fact that the developed country should help the developing country in the protection of the environment. It has always been a sensitive issue to strike a balance between the need of the governments to protect and preserve the environment on one hand and avoiding the usage of environmental measures as a new trade protection measures on the other hand. During the World Trade Organization [hereafter WTO] meeting, there had been immense difficulties in drawing a
compatible relation between environment and development and easing out tension between the developed and developing countries.\textsuperscript{65}

The preamble of the Marrakesh Agreement establishing the World Trade Organization, acknowledges the importance of protection and preservation of the environment but it also lays down that coordination of policies in the field of trade and environment should be done without exceeding the competence of the multilateral trading system. In 1996, the Singapore Ministerial Report on trade and environment stressed the points that WTO is not an environmental agency and it is assumed that the WTO itself does not provide an answer to environmental problems. Environmental problems require environmental solutions, not trade solutions. It also states that trade liberalization is not the primary cause of environmental degradation, nor are trade instruments the first-best policy for addressing environmental problems. Hence it is quite a difficult task to entwine environment and development together.\textsuperscript{66} Liberal economist do not support attempts to harmonize environmental standards since countries posses different environmental absorption capacities and vary in their preference concerning the amount of pollution or environmental degradation they are willing to bear. Environmentalists argue that the present
international trading system promotes environmental degradation.\textsuperscript{67} Hence it can assessed that there is no end to this debate between environment and trade. Neither free trade nor protection provides an adequate model for dealing with the problems of environmental degradation. There is need of utmost cooperation among the various states to deal with environmental protection.

The growing of global environmental crisis has added another dimension to the arena of international politics. It has become a most debated and contested issue in international relations, some regard it, as an irrelevant issue while some consider that if environmental protection is ignored, the chances of life of human being on earth will diminish in the coming further. Various declarations concerning environment have been accepted at international level, though they are morally binding but they have an influential effect on the domestic environmental regulations. The concept of sustainable development was proposed, which seemed as a final remedy to the ongoing environmental degradation. Much challenge lies ahead in the protection of the environment. Only the acknowledgement that environmental degradation will bring irreparable harm to planet, won’t work. After all, knowledge of the severity of other global
threats, such as the nuclear arms race, has not resulted in immediate, meaningful global action. Environmental protection needs to be dealt with cooperation among states, the gap between the North and the South, requires assimilation and integration instead of further abatement between the two. Environmental protection is considered as a new form of imperialism "eco-imperialism" by the North over South. The developing countries considered the environmental policies, as a new diplomacy by the North to rule the world. Another challenging aspect is to bring a balance between trade and environmental policies. The question remains, as how to bring the trade and the environmental system close together without undermining either system, knowing that they are not necessarily always compatible. In fact the two regimes are always in conflict. Also other issues such as affluence and poverty need to be addressed in environmental protection. Hence a vast area is to be unearthed to deal with environmental issues.
REFERENCE


2. Ibid, P. 2.


12. Ibid, P. 14-16.


22. Ibid.


24. Gro Harlem Brundland was appointed as Norwegian Prime Minister, 3 times, she was appointed as a chairman of the UN-sponsored World commission on environment and development [WCED] charged with the responsibility


38. Ibid.


41. Ibid.


45. Neo-Malthusian approach came in defense of Thomas Mathus, the economist and demographer of the late eighteenth century, who was one of the first to highlight the dangers of population growth outstripping food production (see Dannreuther, Roland, International Security: The Contemporary Agenda, Polity Press, London, 2007, P.61.


50. Ibid, P. 110.

51. Ibid, P. 111.


57. Ibid, P. 210-211.

59. Wizard Current Affairs for Main, New Delhi, 2005, P. 205.

60. Ibid, P. 207.

61. Ibid, P. 219-221.


66. Ibid, P. 211-212.

Chapter 2

International Environmental Issues: Historical Perspective

(From Stockholm to Rio)
The environment worldwide is in crisis. Although this message has for many years, been propagated by environmental movements and scientist, it has also been accepted in recent years by the leaders of the world. This environmental crisis is accompanied today by an increasingly severe economic and social crisis in most parts of the Third world. The global environmental crises and socio economic decline in the south are inter connected and have resulted from an inequitable world order, unsustainable systems of production and consumption in the North and inappropriate development models in the South. The competitive forces that make economic growth a necessity and operating within social system that have an unequal distribution of resources and income, have led to uneven development. Thus to properly resolve, the global environmental crisis, it is necessary to reform or change the high growth consumption characteristics that are presently built into the socio-economic system. The depletion of non-renewable resources has to be drastically reduced or stopped and also the pollution, contamination and toxicity that now results from modern systems of industry, agriculture, construction and transportation should also be reduced.
In traditional societies, people lived in relatively self-sufficient communities, making use of local resources and skills, using technologies that were not devastating to the environment. The industrial revolution brought about the onset of powerful technologies that had the capacity to change the physical environment, tremendously. This technological capacity to change nature was accompanied by an equally powerful socio-economic force, private enterprises which was the social mechanism that expanded the reach and impact of industrialism. Technological capacity and economic propulsion led the West to colonize the third world territories, extract their raw materials and get them to absorb their manufactured goods, technologies and industries. In the post-colonial period, the same pattern of world production and trade continued. In fact, through the process of ‘development’, the northern multinational corporations have expanded far more into the corners of the globe, the volume of raw materials export from the south has increased tremendously, the export of investments and technologies from North to South also expanded manifold.¹ This process of development was also made possible by technical advice and aid flows from multilateral agencies (as the World Bank, the FAO and UNDP as well as bilateral aid programmes). These economically generated factors had major implications for
environmental change. The industrial revolution and the growth-oriented economic system developed an ever increasing, demand for goods and services as well as the physical means to supply the demanded output. This led to the depletion of natural resources within the north, the development of industries which included the use of toxic substances and the production of the wastes, and increasing incidence of pollution, with its secondary effects such as acid rain, ozone loss and climate change.

The overproduction and use of raw material led to the destruction of forest and rapid depletion of energy resources such as coal and oil, and of metals and minerals. Due to tighter safety and environmental regulations in the North, there is a relocation of Northern industries to the South operating under poor environmental conditions. Some of these industries pollute the air and water resources, subject workers to occupational hazards and pose a threat to residents in the vicinity of the plants. The companies are able to have standards of safety or pollution control far below what they would have been permitted in their country of origin. It is due to the absence of efficient regulations in most Third World countries. The Bhopal gas tragedy where 3,000 lives were lost and another 200,000 people are suffering disabilities, is an out-standing example of the sub-standard safety practices of a
multinational plant in the third world countries. Many of the damaging agriculture-related technologies developed in the North have been transmitted to the South in the past several decades, replacing indigenous systems that were ecologically more sound. Besides the transnational companies involved in the supply of technologies, sale of products, and participation in production and trade, the financing and technical agencies have also been responsible for facilitating ecological damaging activities.⁴

All these technological development led to the pervasive deterioration of our environmental assets. In the race of development and domination, environment was ignored and it was generally considered an off-path to think and talk about protection of environment. In the early period, nature was treated as a given resource, to be managed by superior application of science and technology and harnessing it, in the service of mankind. But in the twentieth century, attitude towards environment changed and talks of its protection sharpened. Certain influential publications such as ‘Silent spring’ (1962) by Rachel Carson and ‘Limits to Growth’ (1972) a report by club of Rome,⁵ that our decision-makers and intelligentsia realized the importance of prudence, of limits to intervention in nature. Though the environmental problems were unknown in the past, the perception of the crisis is definitely more
recent. And in response to it, there has been an upsurge of international environmental laws and vast outpouring of research and policy analysis. The environmental protection calls for sincere efforts such as legitimization of environmental policy at national level and protection of biosphere to be perceived as a common concern of all peoples. Managing the global environment, still sounds futuristic, but it shouldn’t. The global environment is more of an integrated system than the global economy. It is even more fundamental to human well-being. It is impacted powerfully by human activities and it requires collective management.

Environmental deterioration and its indirect impact on human life, has made the political leaders and analysts to consider it as one of the security issues. The concept of environmental security is one that is specifically associated with the end of the cold war. The idea of linking the environment with insecurity was one of the major attempts at the securitization of a non-military security issue, and thereby promoting a significant security agenda which affected human life giving rise to new natural-social interaction, with the environment threatening social existence, disregard for environmental issues is questionable as neglect of environmental conditions may lead to severe effect on human life. For example, lack of access to safe water and
sanitation may generate adverse health effects, thereby limiting both human well being and productivity. At any rate, it is advisable to make a country’s environmental profile so that critical problems can be identified and quickly addressed.⁹

In recent decades, disputes over scarce natural resources have increasingly become a source of tensions, at a local, national and international level, one will often find environmental conditions to be indirectly contributing to conflicts as they tend to deepen, social and economic inequity.¹⁰ Thus, all such tensions and conflicts give rise to prominence of environmental issue. It was most seriously questioned in the 1960s and 1970s. In the early 1970s, there was greater environmental awareness, a realization of limited natural resources, a requirement for greater public accountability by government and industry and an increased desire by the public to become intimately and actively involved in the planning process.¹¹

The prominence of the international environmental movement popularized the sense that there was looming ‘environmental crisis’, linked to unrestrained population growth, growing resource scarcities and the weakness of existing social and political institutions.¹² Homes Dixon, American academician, explored the link between environment and conflict. He proposed that environmental scarcities are already contributing to violent...
conflicts in many parts of the world and these conflicts are probably early signs of upsurge of violence in the coming decades.

He further proposed that it could be a root cause of social unrest that can spill over into violent unrest. He was able enough to convince US government in the early 1990s that environmental degradation represented a potential source of military insecurity. Jessica Mathews, a former member of the US government’s National Security, called for greater consideration of the effects of resource depletion on the political stability of poorer states. He further argued that environmental problems with global ramifications, such as ozone depletion, climate change, and deforestation, should become issues of state security concern.

Tackling environmental problems is difficult in a politically compartmentalized world but it is gradually happening through the growth of a global civil society and epistemic communities persuading governments and citizens that it is in their own interests to ‘think global’. All this effort was seen in the landmark coming of United Nation Conference on Human environment in 1972 in Stockholm.
Stockholm Conference

The concern for increasing environmental decay had catalysed a proliferation of bilateral, regional and multilateral conventions on diverse issues such as transboundary air pollution, the world’s rivers and transportation of oil on the high seas. In 1968, the UN general assembly adapted a resolution that called for a world conference to address the human environment. This conference was the first international meeting in which the leaders of the world sat together to discuss environmental deterioration and charted out certain principles for the protection of the environment. The world conference organized by the United Nations took place in Stockholm between June 5 and 16, 1972. This conference brought together some 6000 persons including delegations from 113 countries, representatives of nearly every intergovernmental organization and 700 observers sent by 400 non-governmental organizations. It adopted a Declaration on Human Environment, which formulated principles for the management of the environment. The Stockholm conference incorporates in itself 26 environmental principles which reflects a general agreement of concerted global action to preserve and enhance human environment. The preamble emphasizes on the necessity for attention to intergenerational and intrageneration
concerns in devising environment policy. The goal of the conference was to preserve and improve the human environment for the present and future generations along with social and economic development.

The Stockholm declaration on the human environment begins with the statement that man is both the creature and moulder of his environment. The natural and manmade things are essential to his wellbeing and to the full enjoyment of human rights and even right to life. The protection and improvement of the human environment is a major issue for the well-being of people and their development. The declaration made seven proclamations for the mankind. First, environment provides humankind physical sustenance and opportunity for moral, spiritual and material growth. Second, protection and improvement of the human environment is an issue for well being of people and economic development. Third, modern man can transform environment and if this capacity is used carefully, then the benefits can be utilised by all human being. Fourth, the cause of environmental degradation in developing countries is under development and in a developed country it is caused due to disregard for sustainable development. Fifth, the population growth has also contributed to the degradation of environment in the developing country. Sixth,
man must adopt sustainable development for protection of environment. Seventh, the declaration calls upon human being to share responsibilities for the protection of environment and calls upon all government and peoples to exert common efforts for the preservation and improvement of human environment for the benefit of all people and for their posterity.

The Stockholm declaration laid out certain principles of law and behaviour for the world society. The first principle advocates that man bears a solemn responsibility to protect and improve the environment for present and future generations. It stresses on the point that natural resources should be safeguarded for the present and future generations. The capacity of earth to produce renewable resources must be maintained. It also focuses on the protection of wildlife and the non-renewable resources that must be used in a manner to avoid their exhaustion and extinction. It also highlights the fact that discharge of toxic substance and heat into environment must not exceed the limits of their being rendered harmless by the environment. It further focuses on the point that there should be social and economic development as it very essential for better life and also there should be of better use of science and technology for management of natural disaster. The environmental policies of developing countries should enhance the
present and future potential for economic development and states should adopt integrated and coordinated approach for development and planning. A very balanced planning is needed between development and environmental protection and also a rational planning for human settlements and urbanization to avoid adverse impact on the environment. The declaration calls upon the state to practice demographic policies to control population and also national institution should be established and entrusted with the task of environmental planning. The declaration lays great stress on environmental education for all, especially for the young, adults and the underprivileged people and also mass media should help mankind on environmental education.

The Stockholm Conference was an effort to manage the global environment with the help of science and technology. The declaration focuses on the application of scientific knowledge in order to identify avoid and control “environmental risk” and provide a solution of environmental problems for the common good of mankind. Principle 18-20, mentions instruments of international environmental policy, planning and management by national institutions, recourse to science and technology, exchange of information, and finally, teaching and information in environmental matters. Principle 21 confirmed that states retain
full sovereign authority over their resources but charged them with the responsibility to exploit them keeping in mind that it should not effect the environment of other states. The parties to the conference also agreed to acknowledge the concept of a ‘common heritage’ of mankind, whereby resources located outside territorial boarders should be considered as belonging to the international community collectively.

The declaration in principle 22 to principle 26 talks of development of international law regarding liability and compensation for the victims of pollution and other environmental damage, caused by activities within the jurisdiction of a states to another state. It also lays down that values of each state, regarding environmental protection should be respected. It also lays down that international matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big or small. It also lays responsibility on international organizations to play a coordinated, efficient and dynamic role for the protection and improvement of the environment. Finally in principle 26, the declaration states that environment must be spared from nuclear weapons and all other means of mass destruction.26
Another major result of the Stockholm conference was the “Action Plan for Human Environment”, composed of 109 resolutions covering the different fields of environment. The conference also recommended the creation of a central organ to be charged with environmental matters and this led to the creation of the United Nations Environment program (UNEP), giving a degree of permanence to the policy area on the international stage. In the aftermath of the Stockholm Conference, UNEP and the Environmental funds were created to support its activities and to sustain and coordinate the actions of other international institutions such as specialized agencies of the UN (the food and agriculture organization, the World Health Organization, UNESCO) and other regional organizations (organization of economic cooperation and development, organization of American states. etc). Overall, the Stockholm Conference’s most significant legacy, was in putting environmental questions firmly on the political agenda by inspiring many governments to create new ministers and departments of the environment and greatly deepening and widening a global network of environmental pressure groups. The Stockholm Declaration was certainly the most ambitious environmental undertaking of the international community of its time and is praised as the collection of forward-
looking principles with competing agenda. Although the declaration is not binding in nature but it represents an unprecedented international consensus on environmental issues.

**Post Stockholm Period**

The Stockholm conference had enormous value in placing at a global level. The cause of environmental protection and methods to attain it. The conference was global both in its planetary conception of environment and in its view of institutional structure and the world policies. It also had global remification as it addressed all the major environmental themes of all the time. The vision of Stockholm and its implications characterized the subsequent evolution of environmental laws[^30]. Legal developments after Stockholm declaration can be characterized, during the first period, by the drafting and adoption of international instruments, regulating broad sectors of the environment: ocean, inland water, air, soil and wildlife. There were many domestic legislations in response to the awareness at the international level[^31]. In legal development after Stockholm, the United Nations Conference on the law of the sea was produced which incorporates into itself the grand themes of the law of marine environmental protection. It also encompasses several texts concerned with human rights and
humanitarian law. In the year 1980, the United Nations General assembly proclaimed the responsibility of states for the preservation of nature in the interest of present and future generations.\textsuperscript{32}

The Stockholm conference laid a counting concern for the environment and this was further catalyzed by UNEP's activities which led to a promising development in the environmental field. An increasing number of developing countries accepted the relation between development and environment.\textsuperscript{33} There has been rise of treatise regarding nature conservation. The 1971 Ramsar Convention on conservation of Wetlands of international importance, Convention on the protection of the Word Cultural and Natural Heritage, the 1979 Bonn treaty on the conservation of Wild Migratory and the 1973 Washington Convention on International Trade in Endangered species of wild fauna and flora, all envisage the protection of nature in designated natural zones. At regional level too, there were many development. The final act of the 1975 Helsinki conference on security and cooperation in Europe adopted by the representative of all European countries, Canada and the United States, contains an entire chapter on cooperation in the environmental field.\textsuperscript{34} A follow-up to the Stockholm conference was held in 1982 in Nairobi, which was
chaired by Gro Harlem, Brundland, the Prime Minister of Norway; it proposed the creation of World Commission on Environment and Development\textsuperscript{35}.

The World Commission on Environmental and Development was established in 1983 by the General Assembly, brought a new understanding and sense of urgency to the need for a new kind of development that would ensure economic well-being for present and future generations, while protecting the environmental resources on which all developments depends\textsuperscript{36}. The 1987 report “Our Common Future”, placed the concept of sustainable development into the realm of international environmental law. It highlighted the relation between environment and development thus marking the end of the era of emphasis on the Human environment, giving rise to new era of emphasis on environment and development\textsuperscript{37}. This brought an integrated approach towards the protection of the environment and made the developed and developing countries to adopt sustainable methods for environmental protection. During early 1980’s many transversal regulations emerged, which included toxic or dangerous products and wastes, radioactivity and nuclear wastes and hazardous activities\textsuperscript{38}. Occurrence of many serious disaster had immense effect on environment such as in Bhopal, Chernobyl, Basel in the
mid 1980's and in 1987, discovery of the hole in the ozone layer over the Antarctic, made the world community to deal with the environmental deterioration more seriously. It was realized that a more concerted effort is necessary in order to address the environment threats such as depletion of the ozone layer and global warming. Two important reports appeared in 1987. One was ‘the environmental perspective to the year 2000 and beyond,’ which alerted that despite noteworthy development, environmental degradation continued on, threatening human well-being and their survival on the planet. Second report that was published was “our Common Future” by World Commission on Environment and Development which focused on international cooperation to achieve sustainable development. Influence of these reports and efforts by various NGOs led to the rapid evolution of law for protection of environment.

**World Charter for Nature**

This declaration was approved by United Nations General Assembly on 28th October 1982, the charter contains a preamble and twenty-four articles divided into three sections—general principle, functions and implementation. The preamble focuses on the fundamental concept such as man is part of a nature,
civilization is rooted in nature, every form of life is unique and man must fully recognizes the need to maintain and stabilize nature and must conserve natural resources. It reminds that maintenance of ecological system is important, that degradation of natural systems can lead to breakdown of economic, social and political framework of the civilization. The Charter announced certain general principle for nature preservation such as nature should be respected, genetic viability on earth shall be maintained, ecosystem should be secured against degradation. The second part of the charter talks of function to be performed by mankind. It lays down that in the planning and implementation of social and economic development, due consideration should also be given to the conservation of nature. In formulation of long term plans for economic development, population growth and the improvement of standard of living, the capacity of natural system should not be ignored. These should be use of advance technology to reduce the risk to nature and also the discharge of pollutants into the natural systems should be avoided. The last eleven principle concerns ‘implementation’ forces incorporation of the charter principles in the laws and practice of each states and also in the international laws and also awareness regarding nature protection. It lays down that funds, programmes and administrative structures necessary to
achieve the objectives of the conservation of nature should be provided and also there should be enhancement of scientific research to protect the nature. Military activities damaging nature should be avoided and discouraged. Principle 21 lays down that there should be concerted effort by the state, inter governmental organization, non-governmental organization and individual for the conservation of nature in accordance with the charter. It is also emphasized in the charter that it is right of all persons to participate in the elaboration of decision of direct concern to their environment and to have access to means of redress, where their environment has suffered damage or degradation. Finally, in last principle, it emphasizes that it is the duty of each individual to act in accordance with the provision of the charter and to strive for meeting the objectives of the charter. Although the world charter for nature is not legally binding, it indicates the prevailing concepts and direction of international environmental law. Moreover, many of its principles have been incorporated in international conventions and in national laws.

Likewise many regulations came up due to increasing deterioration of environment and public awareness. Most of the regulation could not be enforced to the full extent. The environmental agreement required reconciliation between business
interests and broad public benefits. In 1984, international conference on environment and economics was concluded laying emphasis on the fact that environment and economics should be mutually reinforcing. In 1985, a hole in the ozone layer was discovered over the Antarctica which lead to the adoption of Vienna convention for the protection of the ozone layer in the same year. This convention created a general obligation for countries to take appropriate measure to protect the ozone layer. It outlined the responsibilities of states to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer. The conservation also advocated international cooperation in research, monitoring and information to exchange. It was designed as an “umbrella treaty” to be supplemented by more specific protocols and sub-treatise.

The Montreal Protocol was signed in September 1987 which established a concrete schedule of reduction of chlorofloro-carbons (CFCs) and halons, culminating in 50% reduction in production and consumption by 1998. It entered into force in 1989 and was ratified by 36 countries that accounted for 80% of the CFC consumption. It sets the table for international action on environment thrust that lay beyond the confines of any country or
government. Substance that depletes the ozone layer is to phase out ozone-depletion substances that are responsible for the thinning of the ozone layer. By 2000, 175 countries had ratified the Montreal Protocol, which gives it almost universal support. This makes ban on import or export of hazardous substances that leads to depletion of ozone layer. The agreement acknowledges that certain countries have greatly contributed to the ozone depletion and therefore they should contribute more to the reduction of the CFC. It was expected that countries must eliminate all CFCs by the year 2000. Developing countries were given a 10 years period of grace to meet the agreed phase out.

Another important convention that came into being was Basel convention in 1989, which contains 29 articles, on the control of Transboundary movements of hazardous wastes and their disposal. It aims to ensure that the management of hazardous wastes and other wastes including their Transboundary movement and disposal is consistence with the protection of human health and the environment. It lays down that there should be comprehensive control system in trade of hazardous waste and it should be based on principle of prior informed consent. Thus from Stockholm conference onwards, there has been great acknowledgement of environmental deterioration and its impact on
human health. There had been efforts by the world community in laying out certain rules for the protection of environment but it has not shown any worthy results as many developed countries have not sincerely contributed towards its implementation. It cannot be said that all efforts have been a total waste. All these regulations have at least opened the door to environmental awareness and its effects on human health. The United Nations has responded with extraordinary vision. It has thrown ideas to help mankind to protect the global environment and move forward with economic development in harmony with nature. There are hopes that better use of science and technology will help shape an ecological and balanced global society.

There have been promising developments since Stockholm Conference which are noteworthy. First, the world community is now addressing a wide range of transnational and global environmental concerns such as air and water quality, marine pollution, ozone depletion, climate change, tropical deforestation, desertification, traffic in hazardous wastes and chemicals and loss of biological diversity. Secondly there is growing awareness and realization of the need to integrate environmental concerns and political issues, thirdly it has given a vigorous impetus to international environmental law and one of the most important
aspect of international law. All these have led to the acceleration of activities regarding environment.
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15. Ibid, p.151.


20. Ibid, p.84.


23. Ibid, p.36-37.


31. Kiss, Alexander, Op.Cit., p . 25,


37. Panda, Prasad Bhavani, Op.Cit., p. 206,


40. Ibid, p. 87.


Chapter 3

The Rio Declaration is a step towards sustainable economic development. Economic growth, liberalization and privatization of global economy, have shaken the global environment and the world society. There has been keen debate between the environmentalists and the economists, the former putting brakes on economic development in the interest of environment protection. The Rio Declaration however looks to economics, in the long-term perspective. Economic pursuit should be environmentally sound. The Rio declaration calls for “establishing a new and equitable global partnership through creation of new levels of cooperation among states, key sectors of societies and people”. It calls upon states to work “towards international agreements which respect the interests of all and protect the integrity of the global environmental and development system”. And finally it recognizes “the integral and inter-dependent nature of the earth, our home”.

Even though the Rio Declaration may not bind nations in the legal sense, it does oblige them morally to respect the ideas as indicators of a universal consensus about the priorities of environmentalism. Representing Thailand at UNCED, Dr. Chulabhorn Mahidol, reminded delegates that
the declaration would "have a very strong political and moral force". Throughout the 1980, the environmental movement grew in political strength worldwide but especially in the US and its eco-centric and social justice wings began to challenge more fundamentally the patterns and politics of mainstream global economic development. Principles such as sustained economic growth are good for environmental quality, regulation is good for both the economy and the environment and NGOs that adapt rhetorically radical but practically conciliatory strategies, were very much advocated by various environment conscious people. Various policies were framed to protect the environment. Efforts were made to formulate environmentally sound policies favouring sustainable development. Such efforts were reflected in the Rio Earth summit. It launched an unprecedented effort to tackle the environmental injustices of pollution, resource depletion and declining biodiversity and the social injustices of poverty, hunger and inequality.

At the heart of the plan was sustainable development—the idea of improving the lives of people today without wrecking the prospects of future generations. Rio Earth summit was held in 1992, to mark the twentieth anniversary
of the Stockholm conference, held in 1972 [UN conference on human environment]. It was also convened to chart a course to a more environmentally sustainable future and to address the interlocking challenges of the global environment and development issues. The leader of the world duly acknowledged the seriousness concerning environmental degradation and pledged to reverse the trends that threatened sustainability of the earth.

The Earth Summit, was unprecedented for a UN conference, both in terms of size and the scope of its concern. Twenty years after the Stockholm conference, again the leaders of the world tried to give a new touch to the problem of environment protection and sought to help the growth to rethink economic development and find ways to halt the destruction of irreplacable natural resources and pollution of the planet. The United Nation had taken the first small step in developing global environment awareness by organizing the Stockholm conference on the human environment with "Maurice Strong" as its chairman. He was again chosen as the chairman of the conference in 1992 and he worked to make the earth summit an action arena for many of the transnational
ideas and policies that had failed to take root in the Stockholm\textsuperscript{10}. Maurice Strong noted:

\textit{"Although progress was made in many individual areas after Stockholm, it had little effect on environment-development relationship in the policies and practices of government and industry. Even more ominous is the fact that the underlying conditions driving the risks to the human future that had been perceived at Stockholm did not fundamentally change in two decades that separated Stockholm from Rio"}\textsuperscript{11}.

The origin of the conference can be found in the world conference on environment and development (Brundtland) report\textsuperscript{12}. General Assembly created a preparatory committee [hereafter prep. Com] to work upon it\textsuperscript{13}. The prep. Com met five times in New York, twice in Geneva and once in Nairobi. It was vast, containing all the member states of the UN. There was wide circuit of discussion and negotiations that ran through the five year, before the conference. Behind the meeting lay vast iceberg of international conferences and meetings, national reports on environment and development and meetings to co-ordinate responses by particular groups, such as the world industry conferences on environment
management and the business council for sustainable development\textsuperscript{14}. United Nations Conference on Environment and Development [hereafter UNCED] was also a major focus of action for non-governmental organization [hereafter NGO] and these were deliberately brought into the working of UNCED by Maurice Strong from the first prep. Com. in Nairobi in 1991. After a series of debates and discussion, five text were concluded from various meetings, which were opened for signature and discussion in Rio de Janairo\textsuperscript{15}.

Finally with much efforts and preparations by the leaders of the world, United Nations Conference on Environment and Development, was held in Rio de Janerio from 3-14 June, 1992, with its informal name as “The Earth summit”. Its host government was Brazil. There were as many as 172 government with 116 at the level of heads of state in conference. The principle theme of the conference was “Environment and sustainable development” and there were as many as 1400 NGO and 9000 journalist were present\textsuperscript{16}. At the conference governments focused on the need to redirect international and national policy and plans to ensure that all economic decisions fully took into account its impact on environment. The summit was a turning point in
international negotiations on issues of environment and
development. The main aim of the summit was to find an
equitable balance between the economic, social and
environmental needs of the present and future generations and
to lay the foundation for a global partnership between the
developed and developing countries, as well as between
governments and sectors of civil societies, based on common
understanding of shared needs and interests. Five text
emerged from the meetings of which 3 major agreements were
adopted to guide future work. Agenda 21, a global plan of
action to promote sustainable development, the Rio
Declaration on environment and development – a set of
principles defining the rights and obligations of states, and
a statement of Forest principles- to guide more sustainable
management of the world’s forests. Two legally binding
conventions were also adopted- one on climate change and the
other on biological diversity

Rio Earth Summit

The Rio Earth Summit incorporates in itself twenty-
seven principles and a preamble to be followed by world
society. The preamble emphasizes on establishing a global
partnership by all the nations of the world to work towards the protection of environment and also creation of international agreement which respects the interest of the global environment and development system19.

The declaration opens with the statement that human beings are at the centre of concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature20. The summit apart from discussing various ways to protect the environment also points out to the contribution of special group such as women, NGO and various private agencies to the protection of environment and also highlights the problems such as poverty, population which affects the environment. It also incorporates into itself various other aspects such as maintenance of national sovereignty, international cooperation in protection of environment, right to development, emphasis on transfer of technology, implementation of environmentally safe development21. Various principles incorporated in the Declaration met with criticism from the delegates present in the conference and eventually with lengthy debates and discussions, the text came into being to confront seriously the ecological problems
that the earth was facing due to ecological unsustainable development\textsuperscript{22}.

The Rio declaration was originally envisaged as an earth charter modeled after the 1948, Universal Declaration of Human Rights\textsuperscript{23} which would embody principle of sustainable development for the subsequent development of ‘hard law’ conventions\textsuperscript{24}. The document was anticipated to act as an ‘ideological umbrella”, for agenda 21. The developing countries were much conscious of the title ‘earth summit’ which placed too much emphasis on environment and that is why it was changed to the “Rio Declaration on Environment and development”\textsuperscript{25} The declaration supports the Stockholm conference and seek to build upon it future promises on environment\textsuperscript{26}. The Rio declaration contains numerous references to sustainable development, its reflection can be found in different articles of the declaration:

(a) A healthy and productive life in harmony with nature.[principle 1]

(b) Environment protection is an inherent part of the development process.[principle 4]

(c) Eradicating poverty.[principle 5]
(d) As related to production and consumption and appropriate demographic policies.[principle 8]

(e) Involving 'exchange of scientific and technological knowledge and by enhancing the development and diffusion of new technologies, including transfer of technologies'.

Principle 1 of the declaration sets the tone of a human-centred focus, proclaiming that human being are at the concern of concern for sustainable development and are entitled to enjoy healthy life in harmony with nature. Principle 2 talks of national sovereignity. It was stated by various delegates that any international agreement should respect the sovereignty of all countries and no country should encroach on others area under the pretext of environmental protection. It further states that nations have right to exploit their own natural resources in accordance with their environmental and developmental policies. The addition of developmental consideration in the Rio Declaration and its discussion along with environmental policies also signaled a new effort at integration of the two concepts- a perception developed in the light of events arising from the Stockholm conference giving stress on their interconnection. The World
Commission on Environment and Development expressed this realization that both are not separate challenges but linked with each other. Development cannot subsist upon deteriorating environment resource base and environment cannot be protected ignoring the damage caused by the development. They are linked in a complex system of cause and effect\textsuperscript{30}.

The declaration recognizes right to development as a goal that must be fulfilled so that it can fairly meet the developmental and environmental needs of present and future generation\textsuperscript{31}. In order to achieve sustainable development, environmental protection is to be considered parallel with economic growth. The declaration calls for special consideration for the needs of developing countries in environment management. Principle 5 and 6 acknowledges that all states should cooperate in eradicating poverty as an indispensable requirement for sustainable development and to decrease the disparity between the rich and the poor and special priority to be given to the least developed and most environmentally vulnerable country. The matter of right to development was also raised at the conference as no nation was ready to compromise with the development of the
country. The Declaration highlights, the importance of development for the poor nations and acknowledges the importance of right to development. Some principles address the world economic order as in Principle 7 which proclaims common but differentiated responsibilities, including special responsibility of developed countries in pursuit of sustainable development, considering the pressures their societies place on the global environment.\(^{32}\)

It was realized by the delegates at the conference that environmental protection cannot proceed exclusively in national sphere and thereby they pledged themselves to international cooperation in environmental matters.\(^{34}\) A brief mention of the concept of cooperation is included in the preamble which states that there should be establishment of global partnership through creation of new level of cooperation and agreement which should protect interest and integrity of the global environmental and developmental system. [preamble para 5]\(^{35}\). Principle 8 adds that states should reduce and eliminate sustainable patterns of production and consumption and promote demographic policies.\(^{36}\) Inclusion and focus of population into the declaration met with lots of controversy. Cardinal Sodano of
the Vatican stated that the pollution of the environment and risks to the ecosystem do not come primarily from the most densely populated parts of the planet.\textsuperscript{37} Statistical analysis supports the Cardinal's position. At the present time 85% of the world's income is enjoyed by a mere 23% of its population\textsuperscript{38}. It is estimated that child born in the developed world would consume 20 to 30 times more of the planets resources than a child born in a developing nation\textsuperscript{39}. The per person energy consumption of Europeans is 10 times that of African. North Americans consume twenty times the energy utilized by Africans\textsuperscript{40}. Cooperation was also talked in terms of money. If the industrialized nations want environmental protection, they must be prepared to pay for it. The tension between rich and poor and the financial conflict that underline them were at the heart of every major negotiation\textsuperscript{41}.

Principle 12, which advocates a supportive and open economic system and international consensus, and condemns discriminatory trade policy measures or disguised restrictions on international trade as well as unilateral actions. Principle 14 aims to discourage or prevent the relocation and transfer, to other states, of activities and substance that cause severe environmental degradation or are harmful to human health\textsuperscript{42}. 
Principle 18,19 of the declaration lays responsibilities on states to inform other states about any natural disaster or any harmful effect to the environment. This was especially focused in the Declaration as it was found that many countries were taking advantage of the weak environmental laws of other states. Newsweek, referring to a survey by the government of the United States, stated that four or five American companies operating plants across the border in Mexico admitted that they were to take advantage of weak environmental laws\(^43\). In 1986, an accident in the nuclear sector in Chernobyl, USSR, killed many people and spread radioactive fallout across Europe causing cancer death\(^44\), keeping such disasters in mind the delegates at UNCED supported principle 18,19.

Some principles concern public participation in the process of decision making with regard to environment and development. Principle 10, of the Rio Declaration recognizes individual rights such as a right to information, participation and remedies in environmental matters\(^45\). Similarly principle 21,22 recognizes the importance of the role of youth and of indigenous people, respectively in achievement of sustainable development. It lays down that youth should be mobilized to
forge a global partnership in protection of environment. Indigenous people are encouraged to protect local environment. Principle 20 acknowledges the vital role of women in environmental management and development, and their full participation is very much essential to achieve sustainable development. The historic gulf between North and South could also be sensed at Rio—as the victim of the decades of economic deprivation, the developing nations inevitability focused on the legacy of colonial rule and its relation to environmental degradation. Latin American nations echoed the complaints of the Africans by arguing that "the economic imperialism of multinational cooperation, based in the US and elsewhere was depriving them of effective control of their economics causing wasteful spoilation of their resource bases and not caring about their local environment. Finally principle 23, was adopted stating that environment and natural resources of people under domination should be protected.

The declaration acknowledges that trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discriminations as disguised restriction on international trade. In principle 15, it
is laid down that in dealing with the environment, the precautionary approach shall be adopted by states and at national level states should adopt “polluter shall pay”, principle for environment protection. Two principles address issue of war and peace. Growing realization of the direct and indirect cost of war prompted delegates to urge UNCED in the direction of denunciation, if not renunciation of warfare. Dr. Zuonimin Separovic, representing the new Republic of Croatia, told delegates that “war is highly detrimental to human well being as well as to the environment and development”. He insisted that the Rio Declaration should include a condemnation of war. He expressed concern for the irrepairable consequences of war operations and urged for international action against a new kind of crime which might be called ecocide. Warfare is also harmful to economy of the nations as it diverts the resources and funds of developed and developing nations away from health, education, environmental protection to unproductive devastation which exacerbates human misery and environmental degradation. Developing countries suffer the most of war death, environmental degradation occur there - and use their scarce resources for military upgradation. As a
percentage of GNP, developing countries dedicate 1.6% to health care, compared to 5.2% to military expenditure\textsuperscript{53}.

Though there was much disagreement on this issue but finally Principle 24 & 25 were adopted by various delegates. Principle 24, calls warfare "inherently destructive of sustainable development and calls upon states to respect the existing international law of war providing for protection of the environment and to cooperate in the further development of this law. Principle 25 states that peace is a prerequisite for development and environmental protection\textsuperscript{54}. Principle 26, obligates states to resolve their environmental disputes peacefully and by appropriate means in accordance with the charter of the United Nation\textsuperscript{55}. Towards the end of declaration Principle 27 acknowledges, the state and people cooperation in the upholding of the principles embodied in the declaration and in the further development of international laws in the field of sustainable development\textsuperscript{56}.

Agenda 21

Another important document that was accepted at the summit was agenda 21. It is one of the pillars of the Rio summit consisting of a 40 chapters blue print for the 21\textsuperscript{st}
It addresses the pressing problem of today and also aims at preparing the world for the challenges of the next century. It reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its implementation is first and foremost responsibility of government. Agenda 21 is an environmental action for the 21st Century. It is not legally binding but forms the basis for a new international partnership for sustainable development and environmental protection worldwide. Agenda 21 was the major overall document coming out of Rio and was devised to deal with some of the fundamental problem of resource degradation and aid to the developing world. It acknowledges many issues with respect to global sustainability and includes core chapters related to financing the implementation of technology transfer and institutional follow-up to UNCED.

Agenda 21 spelled out the principles that should guide governments in dealing with everything, from women’s rights and fairer land ownership to national trade tariff, hazardous waste and sustainable use of forests farms and seas. Agenda 21 is the most serious attempt the world has ever made to reconcile the traditionally conflicting ideals of environmental
sustainability and economic growth. The name Agenda 21, came from the first prep. com. meeting in Nairobi, when it was proposed by Maurice Strong to set out a document laying principles on how to make the planet sustainable by the start of the twenty first century. The various chapters in the document required participating states to commit to achieve sustainable levels of consumption in the industrial nation, address population growth, consider market oriented reform of their economies, encourage prices to be set that incorporate and internationalize the environmental costs of production and disposal, ensure increased participation by women in development and environmental policies and programs, facilitate the transfer of technologies from the developed to the developing world, take actions to maintain or increase access to mutual resources by indigenous people, control the export of hazardous wastes and a host of other tasks. It was drafted and argued over minutely by government officials and lawyers and finally agreed by the delegates at the meetings setting out specific measures on trade in particular, the promotion of an open non-discriminatory and equitable multilateral trading system that will enable all countries in particular the developing countries to improve their economic
structure and improve the standard of living of their population through sustained economic development.$^{63}$

Apart from it, a range of measures was agreed for the transfer of technology and the provision of new and additional financial resources to the developing countries for the implementation of the Programme. Hence agenda 21 sets the basic principle as well as the overall framework within which the international community shoulders its burden of responsibility and has to work in order to protect, preserve and enhance the environment together with the development process, particularly in developing countries.$^{64}$ Both the earth summit and agenda 21 in particular reflected the views that achieving the global agenda of environmental suitability requires the participation of the developing countries, the south, as well as the industrial nations, the north. The north must play a major role in finding investments in sustainable development. Agenda 21 created an expectation of North-South partnership that is critical to the achievement of protecting the global environment and minimizing the environmental impact of economic growth. Agenda 21 pays particular attention to national legation. It makes frequent
reference to national laws, measures, plans, programs, standards. Agenda 21 is divided into four sections

1. Socio-economic dimensions (habitats, health, demography, consumption and production patterns, etc.)

2. Conservation and resource management (atmosphere, forest, water, waste, chemical products, etc.).

3. Strengthening the role of non-governmental organizations and other social groups, such as trade unions, women, youth.

4. Measures of implementation (financing, institution, etc.).

The preamble of agenda 21 states that the integration of greater attention to environment and development will lead to the fulfillment of basic needs, improved living standards for all, better protected and managed ecosystem and a safer, more prosperous future. It further emphasizes that all nations and all people have a responsibility to pursue the idea of sustainable development but gives particular responsibility to the United Nations system. It (agenda 21) was conceived as a plan of action to be pursued at all levels of government to give concrete expansion to the idea of sustainable development. It specified that families, communities, local
and national government, should work to ensure compatibility of economic activity with ecological limits and to expand the knowledge of how to preserve the environment so that it would support future generations. The preamble focused on to produce a new global partnership between the more and less developed world that would secure the interests and meet the basic needs of all people.

Section 1 includes recommended actions on sustainable development, cooperation in developing countries, poverty, consumption patterns, demographic, human health, human settlement and integration of environment and development in decision making. It has been emphasised that in order to achieve environmental and development goals, there should be conducive international cooperation and for this purpose sustainable development is to be promoted through trade liberalization. There should be provision of adequate financial resources to developing countries for dealing with their international debt, and encouraging appropriate macro-economic policies. Special efforts to be taken to eradicate poverty. Health risk is acknowledged to result from environmental impacts or of development, and also from lack of development. A state responsibility in addressing health
issues is evident in the agenda. Proposals for promoting sustainable human settlements envisage a comprehensive approach to shelter urban management, infrastructure, equity in land use, transportation, safety and the construction industry. It further envisages a successful legislation in area of environment and development.\textsuperscript{68}

Section 2 includes chapter on the protection of the atmosphere, land resources, combating deforestation, combating desertification and drought, mountain development, agriculture development, biological diversity, management of biotechnology, protection of the oceans protection of fresh water resources, and management of toxic chemicals, hazardous wastes, solid wastes and radioactive wastes\textsuperscript{69}. This section refers to the protection of atmosphere and the activities undertaken should be coordinated with social and economic activities. It recognizes the importance of social, economic and ecological values of forests and the need to incorporate such values into national accounting system. It calls for transfer of biotechnology to the developing countries so that they can use it for betterment of their country. It also focuses on the promotion of resource management through various research studies. It emphasizes
the important of national planning to integrate energy, environment, and economic policy in a sustainable framework and transfer of environment technologies and highlights the need for financing from the industrialized world to the developing world. The management of hazardous waste is also acknowledged.

Section 3 includes ways to increase the participation of major groups in sustainable development efforts, including women, youth, indigenous people and their communities, non-governmental organization, local authorities, trade unions, business and industry the scientific and technological community and farmers. This chapter recognizes that the commitment and involvement of all social groups in effective implementation of all objectives, policies and implementation mechanism agreed under agenda 21. One of the fundamental prerequisite for the achievement of sustainable development is broad public participation in decision-making, giving rise to new form of partnership in context of environment and development. It advocates activities such as programmes to develop consumer awareness and active participation of women, emphasizing their crucial role in achieving changes necessary to reduce or eliminate unsustainable patterns of
consumption and production, particularly in industrialized countries, in order to encourage investment in environmentally sound productive activities and induce environmentally and socially friendly industrial development\textsuperscript{72}.

Section 4 focuses on implementation of agenda 21. It comprises of chapter on financial resources and mechanism, technology transfer, cooperation and capacity building, science, education, public awareness and training, international institution arrangement, international legal instruments and mechanism and information for decision making\textsuperscript{73}. It deals with the financing of the implementation of agenda 21, which reflects a global consensus integrating environmental considerations into an accelerated development process\textsuperscript{74}. Economic growth, social development and poverty eradication are the first and overriding priorities in developing countries and are themselves essential to meeting national and global sustainability objectives. In the light of the global benefits to be realized by implementation of agenda 21, the developing countries should be provided with financial resources and technology\textsuperscript{75}. 

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\textsuperscript{75} In the light of the global benefits to be realized by implementation of agenda 21, the developing countries should be provided with financial resources and technology.
There was contention over who would oversee the implementation and finances of agenda 21. Most countries wanted the establishing of a new UN monitoring agency to be called the Commission for Sustainable Development. A recommendation that funding be handled by the global environmental facility (GEF) met with opposition from the third world, whose concern were based on the GEF’s connection to the world bank and to the industrialized world. The world’s banks environmental record has been poor and the third world has had little influence over it in the past. In the compromise agreed to, the funds were to be directed through a variety of entities including the GEF, regional banks and bilateral aid.

In return for signing up to the Rio agreements, developing countries were to receive more money from developed nations. Agenda 21 estimated that its implementation would cost $625 billion a year and said that $125 billion of this should come as aid from wealthy nations. The current total expenditure for development assistance from industrialized world is $55 billion annually. It was hoped that the average assistance would amount to 0.7% of each industrialized country’s gross national product (GNP)
to total U.S. $ 625 billion, the estimated annual cost of implementing the 115 projects of agenda\textsuperscript{77}. In findings, calculations, environmentalism is considered costly affair which involves, expensive technologies and measures. Those opposed to increasing of funds, did not take into account the long-term benefits that would occur or the economic opportunities in environmental fields. They did not encourage the adoption of more environmentally friendly economic development in Western countries\textsuperscript{78}. Government agreed that durable solution must be found to the debt problems of low and middle income nations, creditors were requested to provide debt relief to the poorest heavily indebted countries that are pursuing structural adjustment\textsuperscript{79}.

There are few areas that are discussed for the basis for action and the objectives. The first area is entitled “Review Assessment” and field of action in international law for sustainable development,\textsuperscript{80} which includes review and assessment of work done to achieve sustainable development. The second areas concerns implementation mechanism, calling for the establishment of efficient and practical reporting system on the implementation of international legal instruments and appropriate ways to further develop these
mechanism. The third area addresses effective participation in international law making, especially for developing countries, providing scientific access to the necessary information and assistance in building up expertise in international law, particularly in relation to sustainable development. The fourth area, entitled “Disputes in the field of sustainable development”, calls for attention to the avoidance and settlement of disputes\(^1\).

**Statement of Principles on Forest**

The growing concern in the recent past with deforestation all over the world was translated at UNCED into a statement of principles on forests\(^2\). Deforestation is fast becoming one of the most pressing environmental issues. It contributes to global warming, loss of biodiversity, soil erosion, desertification and flooding\(^3\). In 1980, 58% of tropical forests were being lost annually, according to the latest UN food and Agriculture organization (FAO) estimates. A recent study by a researcher from the international institute of applied systems analysis indicates that by the year 2010 Europe could be losing more than $ 29 billion a year from forestry revenues because of forest loss due to atmospheric
The statement of principle on forest was the “first global consensus” reached on forests. It emphasised that all countries, especially the developed country should make an effort to green the world, through reforestation and forest conservations. It further proclaims that states have a right to develop forest according to their socio-economic needs and that specific financial resources should be provided to developing countries to establish forest conservation programmes to encourage economic and social substitution policies.

It was expected at Earth Summit that a convention on forest would come out but due to conflict between North and South only a non legally binding authoritative statement of principle for a global consensus on the management, conservation and sustainable development of all type of forests was agreed by the delegates. The northern environmental organization pressurized for specific action on forests and a proposal was made at the meeting of G7 group of industrialized countries but the proposal was opposed to southern countries (the G77). Efforts by the western government to persuade tropical countries to accept international supervision of their rainforests ended in failure.
India, China and Malaysia were the most vocal opponents to any suggestion that their natural resources should be "internationalized". They argued that industrialized countries had cleared off their own forest during industrialization and they also have a sovereign right to use their own natural resources. The developing countries felt that a legally binding convention would infringe on their sovereign right to exploit their resources. Finally a general statement was accepted that was a political document and not an operational tool for the protection of diminishing forest. The estimated cost of international funding for implementing this program is more than $6 billion a year.

The preamble states that the subject of forests is related to the entire range of environmental and development issues and opportunities, including the right to socio-economic development on a sustainable basis and the guiding objective of these principles is to contribute to the management, conservation and sustainable development of forests. The principle of forest include the recognition of the sovereign rights of states to utilize, manage, and develop their forests accompanied with the statement that national policies should be managed to meet the social, economic, ecological,
cultural and human needs of present and future generations. It lays responsibility on the government to promote and provide opportunities for the participation of NGO's, forest dwellers, women, and planning of national forest policies. Other things that are emphasised in the statement of forest principle is the need for sustainable forest management, afforestation, reforestation and forest conservation, financial support to developing countries, facilitation of open and free international trade and control of pollution. Hence the declaration endorses the formulation of internationally agreed methodologies and criteria on which future guidelines for sustainable management may be based.

**Convention on Climate Change**

Two conventions were agreed at Rio, one was United Nations framework convention on climate change and second was biodiversity convention. The convention on climate change contains a preamble and 26 articles. The ultimate objectives of the convention is stabilization of green house gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system and this level should be achieved within a
time frame so that food production is not threatened and also the economic development proceeds in sustainable manner. The convention emphasizes that the developed country should pay a lead role in combating climate change and its adverse effects. It further emphasizes that any policy or measure taken to deal with climate change should be cost effective so as to ensure global benefits at the lowest possible cost.

It focuses on the need for international cooperation in addressing climate change and promotion of a supportive and open international economic system that would lead to sustainable development. The convention was a delicate balance between the divergent political and economic interest. It stressed the significance of the protection of the climate system for both present and further generations, and stated that there must be equity between the industrialized and non-industrialized countries in taking action. The convention calls to formulate, implement, publish and regularly update national and regional programmes containing measures to mitigate climate change. It acknowledges transfer of technologies, scientific and legal information related to the climate system and climate change. It calls for establishment of secretariat and subsidiary body for scientific and
technological advice and for timely advice on matters related to the convention\textsuperscript{104}.

The convention came into force on 21 March 1994, having 165 signatories and 186 parties, but most of the countries did not meet the voluntary goal of reducing their emissions of greenhouse gases to 1990 levels by 2000\textsuperscript{105}. There was too much disappointment regarding the convention. It lacked the targets and timetable for stabilizing emissions of carbon dioxide (CO\textsubscript{2}) that had been desired by most industrialized nations. US had been severely criticized for not taking a lead role in controlling global warming caused by the greenhouse gas effect\textsuperscript{106}. The convention rapidly fell foul of fundamental differences between different parties. There was broad divergence between industrialized and non-industrialized countries, with the north urging the priority of environmental protection and that any measures agreed should be cost-effective, while the south pushed the need for development and industrialisation\textsuperscript{107}. However, with all odds the convention on climate change sets out broad outline for regulation of greenhouse gasses. The intergovernmental panel on climate change has intensified its work on climate
management by developing policies for dealing with climate change\textsuperscript{108} and to meet issues of sustainable development.

**Biodiversity Convention**

The UN convention on biological diversity, opened for signature at the 1992 earth summit, which was ratified by 183 nations, entered into force on 29 December 1993. The convention obligates countries to protect plant and animal species through habitat preservation and other means\textsuperscript{109}. Conserving biological diversity has become an urgent issue. It has gone beyond laboratory and as UNCED demonstrated it has become an issue debated in political arenas\textsuperscript{110}. The aim of the convention on biological diversity is to conserve biological diversity and to promote the sustainable use of species and ecosystems and the equitable sharing of the economic benefits of genetic resources signatory nations committed themselves to the development of strategies for conserving biological diversity, and for its sustainable use\textsuperscript{111}. Biodiversity is integral to the maintenance of the environment and supports water purification, soil production, carbon-cycling and oxygen production. The participants at the UNCED developed a global strategy with guidelines for
action by international, national and local governments and institutions to save, understand, and use biodiversity sustainably and equitably. One of the main goals of the convention is to ensure that any benefits desired from bioresources such as drugs derived from tropical plants, are shared fairly among everyone counted with the resources, not just the companies involved\textsuperscript{112}. Though the convention has procedural inadequacies but still it constitutes an important landmark in the development of international environment law\textsuperscript{113}.

To keep the promise, ideas and commitments made at Rio, monitoring and implementation mechanism were also suggested at UNCED. The Earth council and the sustainable development commission were suggested as possible overseeing agencies. The earth council is to an independent watch dog operating outside the UN system. It would examine the legal and institutional framework of the international agreements and instruments, and sets a charter of the rights and obligations for the players in the environment and development process at the international national and regional level\textsuperscript{114}. The Commission on Sustainable Development was established to monitor and to report on the implementation of
Agenda 21 to the United Nations Economic and social council [ECOSOC]. It would use moral pressure and public opinion to persuade countries to follow the policies outlined at the Rio conference and would rely on information and evidence supplied by non-governmental organization, inter-developmental organizations and environmental groups. Its duties include monitoring, assessment and reporting on post Rio progress$^{115}$.

The Rio conference has given prominence to environmental issues on the political agenda. It raised up the questions, even if it did not have all the answers and made all the people aware about the environmental issues. In addition it reiterated the call for international cooperation on environmental issues that was first head in 1972, Maurice F. Strong, stated that earth summit has ignited a wildfire of interest and support at every level of society in every corner of the planet. He further added that earth summit will help to shift the world into a new pathway to a more secure, sustainable and equitable future$^{116}$. The earth summit carries with itself many shortcoming. It did not set out any firm targets and time to achieve the goals and the major tension it caused was the financing of environmental and development
programmes in the developing world. The rich countries have lamentably failed to provide financial support. The average global aid budget had fallen to 0.22% of GNP, while the total amount dropped from $69 to $53 billion\textsuperscript{117}. The 170 countries that signed up the climate convention agreed to voluntarily cut their green house gas emissions back to 1990 levels by 2000 but it was estimated to rise by 9.1% a year\textsuperscript{118}.

The world's failure to achieve the targets set at Rio can't be entirely based on rich countries cutting their budget, it was also hindered by globalizations, and its political and economic consequences. For example many of the world trade organization (WTO) principles directly conflict with those agreed at Rio\textsuperscript{119}. For instance, biodiversity convention aims that any commercial benefit derived from exploiting wildlife should be shared between the country of origin and the commercial producer. According to this principle if a drug company creates a medicine founded on a developing country's local remedy them it should hand over some of the profits to that country. However, the WTO requires countries to have strict legislation for recognizing and protecting the intellectual property rights of companies and countries that don't fall in line are panelised\textsuperscript{120}. Above all, the earth summit
should not be underestimated. It helped issues such as global warming and loss of biodiversity reach to the people all over the world. Implementing the outcomes of the conference in order to achieve sustainable development requires an enabling international environment, supportive national policy framework, and effective policy implementation.
REFERENCES


35. Ibid, p.41.


38. Cited in ibid, p. 34.


40. Cited in ibid.


44. Ibid, p.43.


50. The polluter pays principle is an economic principle that seeks to ensure that pollution casts are not enternalized but incurred by the polluter. For further detail see Rao, P.K., *“International Environmental Law and Economics”*, Blackwell Publication, London, 2002, p. 275-280.


53. Ibid., p.70.


75. Ibid.


77. Ibid.


82. Ibid, p.127.


86. Ibid, p.9.

87. Ibid, 9.

89. The G77 countries are a group of 128 less developed and less industrialized countries set up as a counter lobby to the developed ‘G7’ countries.


95. Ibid.

96. Statement of Forest Principle 2(b).


101. Ibid.


118. Ibid, p.33-34.

119. Ibid, p35.

120. Ibid, p.35-36.
Chapter-4

BEYOND RIO

(1993-2002)
Rio Earth Summit brought about a great change in the general outlook towards the environment. It brought forth the various dimensions of environmental problem, faced by the humanity. It helped in the expansion of environmental knowledge and empowerment of environmental movement. The environmental ethics has now increasing become popular with students and other young people. Many companies have adopted mission statement which include environmental goals. The Earth Summit has also brought to the final resolution the age old debate between economic development and the protection of the environment. It used to be fashionable to argue in the developing countries that their priority should be economic development and that, if necessary, the environment should be sacrificed in order to achieve high economic growth. But things have changed after Rio Earth Summit. The developing countries understand the need to integrate environment into their development policies. The developed countries, at the same time, also have become increasingly aware of the need to put limit on their greenhouse gas emission. The new wisdom is that we want economic progress, but we also want to live in harmony with nature. Since the Earth summit, it is no longer possible to talk about protecting the environment without considering its impact on sustainable development.\(^1\)
Post Rio period is amalgamation of mixed sections. Many agreements on environment were formulated, but it is also sensed that the tension between the developed and developing countries has increased. The Earth Summit concluded with some progress on economic, social and environmental issues, but there were many unresolved differences, especially on financing questions, between industrialized and developing countries. Efforts were made to fulfill the promise made at Rio. But most of them, faced failures due to the differing perspectives of the rich and poor countries. The environmental policies advocated in the richer nations were designed to protect the high standard of living, resulting from the unprecedented growth, causing exploitation of natural resources. While on the other hand, the poor countries made effort to reduce poverty and hunger by relying hugely on natural resources. This differing view never made the two, the developed and developing countries, to reach to a point of agreement. The developing country bloc, calling itself the G-77 insisted on commitments from the North for additional financial resources to implement Agenda 21 and commitments to assist the South to obtain the necessary technologies. At the same time that this demand was being made, the G-77 resisted committing to a program that specified how the technologies would be used or deployed. This general tension spilled over other issues and
increased the tension as negotiations proceeded. However, all these clashes of the North and South could not stop the making of agreements and protocol, regarding the environment. The prominent among them is Kyoto Protocol and World summit on sustainable development-2002.

During the Post-Earth summit period, several actions were taken at the individual country levels, including the formulation of national environmental policies and action programs. Although some contested the importance of the instruments originating from the Rio Conference, it cannot be denied that texts like the two conventions, (UNFCC, Biodiversity Convention) opened for signature and the declaration are real milestone in the short history of international environmental law. Several principles of the declaration themselves, such as the participation of individuals, the prior assessment of environmental effects, the precautionary principles, the notification of emergencies, the prior information on projects potentially affecting the environment of other states and the subsequent consultation can be found in numerous recent texts, both binding and non-binding in all the sectors of the environment as well as in transsectoral approaches. Henceforth, all this affirms that there has been increased recognition of the global and multidimensional characters of environmental problems and potential remedies in post-Rio period. Most states now accept that global
efforts were required to solve many aspects of environmental deterioration, such as ocean pollution, depletion of stratospheric ozone, the greenhouse effects and threat to biodiversity. Such global problems require better cooperation between industrialized and developing countries. The 1994 Paris Treaty on Desertification is one of the most significant of such developments.\textsuperscript{6}

**International Convention to Combat Desertification**

The International Convention to Combat Desertification in Those Countries Experiencing Serious Drought and / or Desertification, particularly in Africa, came in 1994. It seeks to promote international cooperation for action to combat desertification and to mitigate the effects of drought. The treaty, to which 18 countries are party, provides the framework for all activity to combat desertification.\textsuperscript{7} It contains 40 Articles, and a preamble focusing on to take determined and appropriate action in combating desertification and mitigating the effects of drought for the benefit of present and future generations.\textsuperscript{8}

It focuses on improving land productivity, rehabilitation of land, and the conservation and management of land and water resources. It emphasizes popular participation and an enabling environment for local people to help
themselves reverse land degradation. It contains criteria for the preparation by affected countries of national action programmes, and gives an unprecedented role to NGOs in preparing and carrying out action programmes. Another important development was the concern for ecosystem that had been broadened due to integrated approaches to safeguard the planet's environment. The aim of protecting wild fauna and flora is now incorporated in the larger goal of maintaining biological diversity. The expanded vision includes effort to reverse the trend towards monocultural agriculture and stockbreeding as well as to combat the abuse of pesticides and fertilizers.

International Conference on Population and Development

The International Conference on Population and Development (ICPD) was held in Cairo in 1994. It was an effort to restore global momentum on environmental issues. Many environmentalists, especially those from the North, regarded overpopulation as the leading cause of environmental destruction around the world. So they worked together to make this conference a success and stressed on the point that what was not agreed at Rio, regarding population was to be agreed in Cairo Conference. It was attended by representatives from 183 nations, who broadly agreed to an
action plan to stabilize the human population by the year 2020, and to provide greater equality for women along with improved reproductive health care. The sixteen chapter Program of Action went far beyond earlier action programs and population policies. The Cairo conference changed the framework of debate from conventional issues of family planning to broader questions of reproductive health, empowerment of women, and integration of population policy with environmental policy and development strategies. For all of its success and sense of accomplishment, the ICPD, like the Earth summit, largely failed to integrate demographic, environmental and economic development issues. Many of the environmental activists participating in the Cairo Conference complained that their issues were slighted or even ignored in the battle over abortion issues and in the effort to reach consensus on population stabilization.

The ICPD represented an important effort towards the U.N.'s controversial strategy for building a new world order. The success of the strategy depended on the successful linkage of issues about environment, population, development, the empowerment of women, and human rights. The Earth Summit provided the foundation on which to build international consensus for the first link in the strategy: Environment and Development. The world Population Conference in Cairo, the World Human Rights
Conference in Vienna (June 1993), the World Social Development Summit in Copenhagen March (1995), and the World Conference on Women in Beijing (September 1995) were designed to connect the remaining themes to reproductive responsibility, social equity and women’s empowerment with the ideal of a world order based on sustainable, just, and democratic development. Another summit was held in March 1995, the Berlin climate summit. The objective of the summit was to strengthen the framework convention on climate change signed at the Earth summit. In a decision called the “Berlin Mandate”, the Summit agreed that existing commitments to curb GHG emissions in developed countries were inadequate to meet the convention goals and sought a protocol to strength the commitments. The member countries of the Berlin Mandate sought to create the Global Environmental Facility (GEF), a funding body to help to finance key global environmental projects.

In post-Rio period, there has been increased recognition of the crucial role of economic forces and actors in environmental protection. Enterprises have become more responsive to public pressure, insurance requirements, and often developed environmental consciousness. The states and intergovernmental organizations now utilize more and more innovative economic incentives in environmental protection, such as labeling,
standarisation, environmental auditing, use of the best available techniques and environmental practices.\textsuperscript{19} In 1997, the General Assembly held a special session of Earth summit plus five (Earth summit +5) to assess the impact of Earth summit. The member present on the session had a great difference of view on how to finance sustainable development globally, but emphasized that putting Agenda 21 into practice was more urgent than ever. The session’s final document recommended measures which included – adapting legally binding targets to reduce emission of greenhouse gases leading to climate change, moving more forcefully towards sustainable patterns of energy production, distribution and use, and focusing on poverty eradication as a prerequisite for sustainable development.\textsuperscript{20} The summit also emphasized on the fact that global environment has continued to deteriorate and that “significant environmental problems remain deeply embedded in the socio-economic fabric of countries in all regions.\textsuperscript{21}

Of all the effects of environmental deterioration, climate change is the most serious one. The emission of green house gases are likely to cause rapid climate change. Carbon dioxide is produced when fossil fuels are burned and its effect intensify when carbon dioxide absorbent forests are cut down. Chlorofluoro carbons (CFCs) and other gases also play a role in trapping heat in the atmosphere. By thickening the atmosphere “blanket” of
greenhouse gases, mankind's emissions are upsetting the energy flows that drive the climate system. Several institutions came in response to climate change. The UN framework convention on climate change (UNFCCC) was signed in 1992 and entered into force to become operative since 1994. It was established as a basic international commitment, within which to address the risk posed by human-induced climate change. The convention contained no authoritative targets of deadlines, chiefly because of the opposition of the US and OPEC. It aimed at reduction of greenhouse gas emissions to 1990 levels by the year 2000. It included a commitment from all parties to take action to deal with climate change which included the preparation of programmes for mitigation and adaptation, the encouragement of scientific research, and submission of reports on national emissions and response efforts. The UNFCC specifies three categories of commitments (1) those general commitments that apply to all parties of the convention (2) those specifically applicable commitments for parties listed in Annex I (39 industrial countries and economies in transition) and (3) commitments that apply to parties in Annex II (developing countries). The conference of parties (COP) under the UNFCC became an institutional arrangement for continued multilateral negotiations and policies governing global climatic issues.
The conference of parties (COP), held various sessions to assess and review the commitment made at the convention (UNFCC). Its first meeting was held in 1995 in Berlin. In the meeting, Adhoc Group on Berlin Mandate was established to draft "a protocol or another legal instrument" for adoption at COP-3 in 1997. The IPCC's second Assessment Report was adopted soon after the Berlin meeting, in December 1995. The report was reviewed by some 2000 scientists and experts worldwide. The report expressed concern about discernible human influence on global climate and also produced various cost-effective strategies for combating climate change. The COP held its second session from 8 to 19 July 1996. Ministers released a declaration stressing the need to accelerate talks on how to strengthen the climate change convention and endorsed the second Assessment Report as "currently the most comprehensive and authoritative assessment of the science of climate change, its impacts and response options now available". They further stated that the report "should provide a scientific basis for urgently strengthening action at the global, regional and national levels, particularly action by industrialized countries to limit and reduce emissions of greenhouse gases." The third COP meeting in 1997 laid the road for Kyoto Protocol. The Kyoto Protocol is a protocol to the United Nations Framework Convention on climate change (UNFCC). It legally binds all the
industrialized nations to reduce worldwide emission of greenhouse gases by an average of 5.2% below their 1990 levels by 2012. The cuts are not uniform, different countries have been set with different targets.

**Kyoto Protocol**

Kyoto Protocol remained a controversial issue for a period of time. This was mainly because United States was not ready to comply by the treaty and give its vote to it. Kyoto Protocol was an international effort to curb greenhouse gases and bring global warming under control yet the biggest polluter of all was not ready to agree by it. For the protocol to come into force, it was required to be ratified by countries responsible for at least 55% of the greenhouse emissions from industrialized nations in 1990. There was lots of disagreement among developed and developing country over Kyoto Protocol. Finally when Russia agreed to ratify it, Protocol was able to meet the basic condition of its implementation. It formally entered into force on February 16, 2005. The Kyoto Protocol establishes legally binding commitments for the reduction of six greenhouse gases (carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons, and perfluorocarbons) produced by industrialized nations, as well as general commitments for all member countries. Its objective is to achieve
“stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system”\textsuperscript{31}. The five principal concepts of the Kyoto Protocol are:

1. **Commitments**: The heart of the Protocol lies in establishing commitments for the reductions of greenhouse gases that are legally binding for industrialized countries as well as general commitments for all member countries.

2. **Implementation**: In order to meet the objectives of the Protocol, Annex I (industrialized) countries are required to prepare policies and measures for the reduction of greenhouse gases in their respective countries. In addition, they are required to increase the absorption of these gases and utilize all mechanisms available, such as Joint Implementation, the Clean Development Mechanism and Emissions Trading, in order to be rewarded with credits that would allow more greenhouse gas emissions at home.

3. **Minimizing Impacts on developing countries by establishing an adaptation fund for climate change.**

4. **Accounting, Reporting and Review** in order to ensure the integrity of the Protocol.

5. **Compliance**: Establishing a compliance committee to enforce compliance with the commitments under the protocol\textsuperscript{32}.
Under Act 12 of the Kyoto Protocol, developed countries will be able to use emissions reductions from project activities in developing countries to contribute to their compliance with greenhouse gas reduction targets through an instrument called the CDM. The CDM will allow such cooperative projects, such as the construction of high-tech, environmentally sound power plants, or more adaptive projects, such as sea wall construction aimed at protecting a developing country from the impacts of climate change. Another important feature of Kyoto Protocol is Emission Trading. International emissions trading represents a new opportunity to reconcile the equity efficiency concerns of the parties under Kyoto Protocol. If structured effectively, emissions trading could provide a powerful economic incentive to cut emission while also allowing important flexibility for taking cost-effective action. To meet the emissions reductions set out by the protocol, this cost reduction can occur when a firm or nation that finds it comparatively easy to reduce greenhouse gases, can sell emissions permits to a firm or nation who finds it more expensive to reduce greenhouse gases—thus lowering the cost without affecting the level of environmental protection or reducing more greenhouse gases for the same cost. The Kyoto Protocol provides a mechanism for industrial countries to cooperate on emission reduction projects and share the benefits through an instrument.
called Action Taken Jointly (ATJ). Another significant feature is Sink Enhancement. A complimentary strategy to emissions reduction is the enhancement of absorption of greenhouse gases by either biological or physical sinks. A number of successful forest conservation and tree-planting efforts have been initiated under this program. It is important to continue to test a range of similar enhancement activities such as building up soil carbon in agriculture, intensification of the cultivation of bio-fuels production, and development of methane and N₂O sinks.

Advocates of the Kyoto Protocol state that reducing these emissions is crucially important as carbon dioxide is causing the earth’s atmosphere to heat up. Most prominent among advocates of Kyoto have been the European Union and many environmental organizations. The United Nations and some individual nations’ scientific advisory bodies have also issued reports favouring the Kyoto Protocol. A group of major Canadian corporations also called for urgent action regarding climate change, and have suggested that Kyoto is only a first step. Kyoto Protocol has also been criticized by many scholars. Some public policy experts who are skeptical of human caused global warming see Kyoto as a scheme to either slow the growth of the world’s industrial democracies or to transfer wealth to the third world, as an step to global socialism initiatives. Some environmental economists have
been critical of the Kyoto Protocol. Many see the costs of the Kyoto Protocol as outweighing the benefits, some believing the standards which Kyoto sets to be too optimistic, others seeing a highly inequitable and inefficient agreement which would do little to curb greenhouse gas emission. Further, there is controversy surrounding the use of 1990 as a base year, as well as not using per capita emission as a basis. Countries had different achievements in energy efficiency in 1990. For example, the former Soviet Union and eastern European countries did little to tackle the problem as their energy efficiency was at its worst level in 1990, due to the fall of communist regime. On the other hand Japan, a big importer of natural resources, was busy with its development. In nutshell, it can be said that Kyoto Protocol had mixed reactions. The use of per capita emissions as a basis on following Kyoto-type treatise can reduce the sense of inequality among developed and developing countries like, as it can reveal inactivities and responsibilities among countries.

**World Summit on Sustainable Development (WSSD)**

Achieving sustainable development worldwide entails changing patterns of production and consumption—what we produce, how it is produced and how much we consume. Finding ways to do this, particularly
in the industrialized countries, was first put on the international agenda at the Earth summit. Since then, the Commission on Sustainable Development has spearheaded a work programme aimed at challenging the behaviour of individual consumer, households, industrial concerns, business and governments. Its actions have included expanding the UN guidelines for consumer protection to include a section on the promotion of sustainable consumption. Ten years after the Earth Summit in Rio, the world leaders promised to fix the environment plundering at Johannesburg in 2002. Meanwhile pollution spreads was under no control. Nature’s bounty was plundered as usual. Climate change was increasingly implicated by rising frequency and severity of storms, floods and famines. At Johannesburg Summit, the leaders of the world converged to discuss and tackle various problems and its effect on environment. The Summit made an effort to tie together the disparate issues of poverty and economic development globalization and corporate accountability while protecting natural resources and preventing climate change. It aims to rediscover the path to sustainable development that we lost somewhere on the road from Rio.

The World Summit on Sustainable Development was held in Johannesburg, South Africa from 26 August to 4 Sep. 2002, to take stock of achievements, challenges and new issues arising since the ground-breaking
1992 Earth Summit in Rio de Janeiro. But more than that it was an "Implementation" summit, designed to turn the safety goals, promises and commitments of Agenda 21 into concrete, tangible actions. Preparations for the Johannesburg Summit in mid 2001 at the national and regional levels. Contributions for the summit were mobilized by the entire UN family. Major groups including non-governmental organizations, youth, women, local governments, indigenous people, the scientific community, business associations, trade and farmers, held wide-ranging activities. Intergovernmental negotiations commenced in early 2002 and intensified with each session of the preparatory committee, with the final session being held at the ministerial level in Bali, Indonesia, and culminating in the Summit itself in Johannesburg. The summit brought together an incredible range of interests, from heads of state and government to leaders and experts from each of the major groups. Over 22,000 people participated in the Summit, including more than 8,000 representatives from non-governmental organizations, business and other major groups, and 4000 members of the press.

The Summit reaffirmed sustainable development as a central element of the international agenda and paved the way for the practical and sustainable steps needed to address many of the world’s most pressing
challenges. Furthermore, general understanding of sustainable development was broadened and strengthened, particularly the important linkages between economic and social development and the conservation of natural resources. Commitments were made on specific time-bound targets and goals, including some important new targets related to basic sanitation, the use and production of chemicals, the maintenance and restoration of fish stocks and a reduction in the rate of biodiversity loss. New issues were brought into sharper focus, such as sustainable production and consumption patterns, energy and mining. And the special needs of Africa and the small Island developing states were specifically addressed. A unique and important outcome of the summit was that the internationally agreed commitments were complemented by a range of voluntary partnership initiatives for sustainable development. More than 200 partnership proposals were announced in the sum up to the summit, addressing many critical areas of sustainable development in all regions of the world. A considerable amount of funding has also been committed for these partnerships. Reflecting a broad consensus on the need to intensify action and to engage the full stakeholder community. Governments adopted two key documents at the summit: the Johannesburg Declaration on Sustainable Development and
the Plan of implementation of the World summit on sustainable
development\textsuperscript{40}.

The WSSD faced many criticism. It is considered that the outcome of
the summit had set back the environmental agenda to such an extent that the
WSSD, rather being known as ‘Rio plus ten’ is more accurately considered
as “Rio minus ten”. The declaration contains too ambitious and too
amorphous an agenda, that is hard to achieve. The talks at Johannesburg
extended over an extraordinary array of complex and contentious matters
ranging from water and sanitation problem, energy, health and environment,
agriculture, biodiversity to poverty eradication, governance, trade, finance
and globalization, etc. The WSSD was deliberately conceived as a ‘catch­
all’ conference and it accordingly caught all of the existing tensions in
global development diplomacy. Yet precisely, because the agenda was so
dispersed, countries did not form into tight negotiating groups.

Finally it can be said that in post Rio period there has been effort by
various environment conscious leaders to fulfill the promise made at Rio.
Though in actual practice the results of various treatise have been successful
in a small way. This is mainly due to conflict between North and South and
their differing perspective. Also the economic disparity between the two
groups has made all efforts quite futile. It is essentially important that all
countries realize their, ‘common but differentiated responsibilities’, for maintenance of environmental well-being.
REFERENCES


2. Ibid., p. 34.


6. Ibid.


14. Ibid.

15. Ibid., p. 48.

16. Ibid., p. 48.


18. Ibid.


27. Ibid.


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38. *Political Declaration and Plan of Implementation*, Published by The United Nations Department of Public Information, New York, 2003, p. 4.6.

39. Ibid.

40. Ibid.
CHAPTER-5

Clean Environment:

A Human Rights Perspective
The environment envelops us and provides us with essence of life. Without a healthy environment, our ability to function and thrive is significantly diminished. In fact, human existence depends wholly on adequate environment. This gives rise to the proposition that healthy environment must be viewed as a human rights. Attempt to link environment and human rights goes back to the Declaration of the Stockholm Conference on Human Environment of 1972, which marks the beginning of the point at which the United Nations and its member governments officially acknowledged the Environment Movement. The Stockholm Declaration stated that man has fundamental right to freedom, equality and adequate conditions of life. It further calls on to guarantee an environment of a quality that permits a life of dignity and well-being and lays responsibility on man to protect and improve the environment for present and future generations. This effort to link environment and human rights was given a further push by the successor conference to Stockholm, i.e., Rio Conference in 1992. These efforts have begun to explore whether some aspects of rights to the environment are implicit in the charters and covenants, beginning with the Universal Declaration of Human Rights. Simultaneously, however, it is being comprehended that in present time when complex environmental problems are beginning
to affect the life of the people round the world, it has become necessary for a framework of common environmental rights and obligation to be guaranteed through new international instruments and status.

Environmental rights are the only human rights that are intrinsically tied to the welfare and interest of future generation as moral person and that provide reciprocal benefits for present generations in arguing for beneficial environment policies. The strongest argument in favour of qualitative environmental rights is that other human rights are themselves dependent on adequate environmental quality, and cannot be realized without government action to protect the environment. United Nations organs responsible for human rights issues have begun to consider the inter-relationship of the environment and Human Rights. The United Nations organs responsible for human rights issue have begun to consider the inter-relationship of the Environment and Human Rights. The United Nation’s Sub-Commission on the Prevention of Discriminations and Protection of Minorities have adopted several resolutions in this field since 1989. One reaffirms that the movement of toxic and dangerous products, endangers basic human rights such as the right to life, the right to live in a sound and healthy environment and the right to health, calls on
UNEP to find global solution to the problems. A resolution of the United Nation appointed a special rapporteur to study the environment and its relation to human rights, affirming the intricate relationship between human rights and the environment.

The UN Human Rights Commission also adopted a resolution in 1990 in which it stressed the importance of the preservation of life-sustaining ecosystem to the promotion of human rights.

The myriad declaration, international conventions and agreements that address human rights and environmental protection either separately or jointly, reflect the point that states have obligation in these areas. It also brings home the point that individual as well as group of people have a number of rights. Though there was focus on the need of environmental protection and its relation with the human rights but from legal point of view, the connection was not immediately drawn. With the passage of time the link between human rights and environment became bold. Many environmental rights claim have been based on the right to life which is most fundamental and has been incorporated in the most human rights conventions and agreements. For example Art 3 of UDHR and Art 6 of ICCPR, talks of rights to life. Also Art 2(1) of European Convention for protection of Human rights and Fundamental freedom and Art 4(1) of American Convention of
Human Rights talks of rights to life. Though the scope of right to life has been widened but there are very few incidences where environment problems have got justice. The status of right to environment in international law has stirred much debate. Some authors have favoured right to environment but some have termed it as vague and unnecessary exageration. But the current findings of the science, of greenhouse gases, hole in the ozone layer in the polar regions, global warming, acid rain, and shows that environment is no more a thing to be ignored. The intensity of the problem has made it to come to the forefront.

Two alternative approaches are adopted to explain the relationship between international human rights and environmental protection. The first viewpoint provides that the recognition of environmental rights is a necessary prerequisite for the ultimate realization of fundamental human rights. Proponents of this approach, reason that degraded physical environment contribute to infringements of the human rights to life, health and livelihood. Any act leading to environmental degradation may constitute an immediate violation of internationally recognized human rights. Thus supporter of this approach advocate the creation of a universal system of environmental protection as a means of ensuring compliance with minimum standards of human rights.
The second approach holds that international human rights are a launching point from which environmental rights may be derived. This approach lays down that both second and third generation of rights can be derived from the first generation of rights.

**Why Extend Environmental Consideration to Human Rights**

In recent years, we are witnessing an unprecedented increase in legal claim for both, human rights and the environment. Never before have had so many people raised so many demands for human and environmental protection. A future legal historian may well look back to the end of the 20th century as the period where environmental laws and human rights reached a kind of maturity and omnipresence. Like human rights, environmental law touches upon all spheres of human activity. The discussion on human rights and the environment is not new. For example, for nearly 20 years environmental lawyers and human rights lawyers were debating, whether there are individual human rights to a healthy, decent or viable environment. Is such a right fundamental and obvious like the individual right to life and well-being, or is it so far fetched like an individual right to happiness.(being an ideal rather than a right) Despite a wide-ranging internet and awareness
and recognition of the right to a healthy environment in many states, debate continues as to whether the language of human rights is the appropriate vehicle for expressing environmental norms and values.

As international attention began to focus on environmental problems, the link between human rights and environmental degradation began to be noted, although from legal aspect, its relation were not immediately drawn. In their development, international environmental law primarily focused on damage to the planet, including to plants, animals and eco-systems while human rights law focused on preventing or remedying negative impacts on human beings. Over time though, the link between the protection of the environment and human rights has been considered by most international human rights bodies. The special rapporteur to the United Nations Human Rights Commission on housing, health, indigenous people rights and migrants have all stressed the connectedness of environmental protection and human rights to their area of study and review. There is no denying that human kind and the environment and their mutual interests are inseparable. Humans require air, water and food in order to survive. Contamination, pollution or destruction of these elements, posses a direct threat to the health, shelter, food, and well-being of
human and indeed to human life itself. Thus both human rights law and environmental law are aspects of the common interest of humankind. Many environmental rights claims have been made, based on the right to life, which is most fundamental of all human rights whose reflection can be deciphered in all major human rights conventions and agreements. Environmental human rights mechanisms at the national and regional level would also aid in the effort to establish substantive standard of environmental justice. Already more than 60 national constitutions recognize at least some responsibility to protect the environment. The new government of South Africa, for example, adopted a constitution stipulating that, every person shall have the right to an environment which is not detrimental to his or her health to well-being.

The relationship between environment and human rights may be conceived in two ways. First, environmental protection may be cast as a means to the end of fulfilling human rights standards. The degraded physical environments directly, contribute to the infringements of the human right to life, health and livelihood. Hence acts leading to environmental degradation may constitute an immediate violation of internationally recognized human rights. The creation of a reliable and effective system of environmental
protection would help ensure the well-being of future generation as well as the survival of those people, often including indigenous or economically marginalized groups, who depend immediately upon natural resources for their livelihood. In the second approach, the legal protection of human rights is an effective means to achieving the ends of conservation and environmental protection. Hence the full realization of a broad spectrum of first and second generation rights would constitute a society and a political order in which claims for environmental protection are more likely to be respected. The history of environmental law has evidenced compromise between environment and commercial consideration that has consistently prioritized the interests of latter over the former. Human rights would be more helpful in dealing with environmental problems. Since the right discourse could provide environmental legislation with a heightened status which would reflect the importance of environmental concern. The political influence held by global economic investors constitutes a formidable bulwark that prevents the realization of the claimed environmental human rights. The linking of environment and human rights discourses can be illuminating since this introduces an alternatives conceptualization of both subjects that can facilitate new ways of questioning existing political terms of reference.
Bartlett\(^{25}\), points out that environmental human rights are predicated upon ecological values and are typically rejected by practitioners of economic rationality. So drawing environmental concern into the remit of human rights, offers a further mechanism for the articulation of ecological values.

As the time passed, the topic of environmental protection has increasingly begun to find place in the agenda of international organization. Though these provisions did not explicitly speak about the need for environmental protection as a human right but derivation of various rights shows that healthy environment is precondition for enjoyment of various rights. Stockholm Conference gave an impetus to the nations to think that the environment has to be protected for facilitating the right to life\(^{26}\). Clean environment as a human right gradually began to find a place in some regional treatise. Article 24 of the African charter on Human and People's Right, 1981, expressly provides that all people have the right to a general satisfactory environment, favorable to their development\(^{27}\). In 1989, a coalition of non-governmental organization led by the Sierra Club Legal Defense fund convinced the sub-commission to appoint special rapporteur to make an international study of the overlap between human rights and environmental issues\(^{28}\). The special rapporteur, Fatima
Zohra Ksentini, issued her final report in august 1994, documenting environmental injustices around the globe and pointing out the potential value of combining the ecological and human rights policy agenda. Such effort can also be seen in the 2002 Johannesburg World Summit on Sustainable Development, which sought to track progress made over 10 yrs following the Rio Summit. Its plan of implementation recommended that states should acknowledge the consideration being given to the possible relationship between environment and human rights, including the right to development. Hence inclusion of environmental protection, under the ambit of human rights is now being considered in various international documents as good and healthy environment is a prerequisite for the fulfillment of already recognized human rights, especially in the social field. Clearly, there is a strong nexus between international human rights and environmental protection. Both strive to make government and private actors accountable for their activities. Likewise, the protection of human rights may contribute to protection of the environment. Since, as long as environmental damage can be translated into a violation of a protected human rights, a claim to the protection of the environment may be asserted as a corollary to that right. The fulfillment of certain political rights and
procedural guarantee usually found in human right instruments could also prevent measures likely to cause environmental harm.\(^{34}\)

**Environmental Rights in Existing Human Rights Treatise**

With development and industrialization change has come in all the sphere of activity, be it is in international law or behavior of the individual. The relation between individual and nation has become more and more interdependent so much so that the act of one nation has a great influence on economy, people and climate of other nations. And such diplomacy prevails in international relations that, only those laws are prophesized by the developed nations that are profitable to their country. Issues such as poverty, social discrimination, and environmental degradation are not yet able to carve any influential effect in international law. Though much derogation of environment has been done due to rapid industrialization and it is causing dangerous effects on the lives of people, but still the issue has not taken any productive turn. Environmental degradation is influencing the health of people, causing deforestation, ozone depletion which has adverse effect on the health of people, leading to skin cancer. The effects of environmental degradation are so bold that it cannot be ignored
any more. There are only few to name, which boldly claim the right to a clean environment for example, the African charter of people 1981. Treatise such as International Covenant on Civil and Political Rights, Covenant on Social and Economic Rights, 1966 and regional treatise such as American Convention on Human Rights, European Convention on Human Rights contains rights in environmental fields such as right to life, right to work in a decent environment, right to work in a healthy environment.

The Convention on Civil and Political Rights, American Convention on Human Rights, European Convention on Human Rights, all contain right to life, which lays responsibility on the state to protect the lives of the people. The scope of right to life has been widened which incorporates many aspects such as right to education, right to healthy environment etc. Hence state should strive its best to protect people from environmental harm and should work toward the reduction in degradation of environment. Thus in cases such as Bhopal gas tragedy or Chernobyl tragedy, the right might be invoked to claim compensation from the state. The American Declaration of the Rights and Duties of Man, which came into being in 1948, focused on right to life, liberty and security of his person and the right to the preservation of his health. The right to a healthy environment is also found in
additional protocol to the American Convention on Human Rights in the area of economic, social and cultural rights – protocol of San Salvador. It came into being in 1988 proposing that social, economic and cultural rights and civil rights are essential for better enjoyment of human rights. Article 11 of the protocol lays down that everyone is entitled to live in a healthy environment and to have access to basic public services. Likewise the African Charter on Human and People’s Right which came into being in 1981, explicitly expresses right to clean environment. It provides that all people have the right to general satisfactory environment, favorable for their development. It also provides that every human being shall be entitled to respect for his life and the integrity of his person. It further emphasizes in Art 16 that every individual shall have the right to enjoy the best attainable state of physical and mental health. The International Covenant on Economic, Social and Cultural Rights 1966, also talks about right to environment, focusing on healthy environment for better growth of personality of human being. Some other rights which can be derived from it, is right to health and right to work in a decent living conditions. The International Labour Organization which is also regarded as a human rights treatise, talks of improving the working environment. All this can make the state realize that
they should work towards the reducing of pollution which affects the life of people in many ways. Convention on the Rights of the Child 1989, provides in Art 24 that the child is entitled to healthy environment in which he can groom his personality in best possible ways. This treaty explicitly gives recognition to the connection between health and the state of environment.

The European Convention on Human Rights (1950) and the European Social Charter (1961) which is applicable to European Community do not explicit confer right to environment. The European Court of Human Rights interprets some civil and political rights to protect against environmental harms. It has been framed within the threshold of violation of privacy of ones life and peaceful enjoyment of one’s possessions. The international legal community has been little reluctant to recognize the right to healthy environment. However, discussion of environmental protection under certain laws of various treatise shows positive attestation of recognition of human rights to environment for example, the European Commission on Human Rights and the European court on Human rights have, been linked to human rights. In the case of lopez-Ostra Vs spain, the European court referred to article 8 of the European connection on Human rights 1950. It held that environmental pollution could be
violation of human rights\textsuperscript{49}. The case was related to the havoc caused by the tannery waste treatment plant\textsuperscript{50}. The court held that environmental pollution may result in affecting an individual well-being so as to deprive the individual of enjoyment of private and family life\textsuperscript{51}. The court found that Spain had breached its affirmative duty to ensure respect for home and private life under Art 8(1) and gave the applicant compensatory damages\textsuperscript{52}. In 1998 in another case, Guerra & others Vs Italy\textsuperscript{53}, court applied Art, 8 of European convention. It stated that Italy had breached its obligation to respect the applicants right to privacy and family life since it had not provided essential information into enable them to assess the environment risks of living close to a chemical factory and stated that Italy violated its convention obligation to take affirmative action in ensuring respect for their family life.

Therefore, even though inter-national courts and tribunals and some national courts have explicitly recognized the importance of environmental protection, the ability of government to protect the environment has been limited because environmental protection is not considered as a separate entity in itself. It is rather linked to other rights. Environmental degradation transcends national boundaries and therefore environmental problem should
be considered as a separate entity and possible solution at the international level must be further explored.

**Environmental Legislation in India**

The constitution of India can be said to elaborately discuss environmental right. It incorporates environmental rights in many facet, fostering an extensive and innovative jurisprudence on it\(^5^4\). The Indian Supreme Court has held the principle of precaution, polluter pays and inter-generation equity as well as the public trust doctrine as integral to the corpus of Indian law\(^5^5\). The environmental right in India is a derivative right. The Indian court fashioned the environmental right out of the constitutional right to life\(^5^6\). The constitution of India protects environment through various fundamental right. For example Art 21 guarantees the right to life, a life of dignity, with proper environment, free of danger of disease and infection\(^5^7\). Declaring that the right to life included the finer graces of human civilization, the supreme in P Nall Thampi V union, AIR 1985 SC 1133, virtually rendered this fundamental right a repository of various human rights\(^5^8\). It includes rights such as right to live with human dignity, right to healthy environment
which incorporates pollution free water and air and protection against hazardous industries\textsuperscript{59}.

In 1991, in the case of Subhas Kumar Vs state of Bihar, it has been held that public interest litigation is maintainable for ensuring enjoyment of pollution free water and air\textsuperscript{60}. The protection of ecology and environmental pollution has also been guaranteed to the citizens in various cases. In 1985, in the case of Rural Litigation and Entitlement Kendra vs. state of U.P., relief was given to the people living near limestone quarries, as pollution caused by it was affecting the safety and health of people\textsuperscript{61}. To ensure healthy environment, Supreme Court directed the company manufacturing hazardous and lethal chemicals, to take necessary measure, to avoid dangers to health and life of working people\textsuperscript{62}. In another case in 1996, in MC Mehta Vs Union of India, the supreme court held that such industries though of vital importance to the country’s development but they cannot be allowed to destroy the ecology, degrade the environment and pose a health hazard. It advices to set up pollution control devices. The Supreme Court held that the precautionary principle ad the polluter pays principle are essential features of sustainable development and has to be adopted\textsuperscript{63}. The constitution requires that chemical or other hazardous industries which are essential for economic
development may have to be set up but measures should be taken
to reduce the risk of hazard to the community. The Supreme Court
directed the High court to set up a green bench in case of Villore
citizens welfare Forum Vs Union of India, AIR 1996 Sc 2715^64^.
Certain directions regarding hazardous chemicals were given by
the supreme court in MC Mehta vs. Union of India (1987) supp
SCC 131, AIR 1987 SC 1086, relying partly on article 21^65^. In the
above judgement, there are dicta that life, public health and
ecology have priority over unemployment and loss of revenue^66^.

India is a signatory to several international agreements and
treatise relating to environment such as the Conventions on
International Trade in Endangered Species, Convention on
Wetlands of international importance, especially as waterfowl
habitat, Convention on the Conservation of migratory species of
wild animals, Vienna Convention of the ozone layer, Montreal
Protocol on substance that depletes the ozone layer, Convention on
Biological Diversity and climate change and Basal Convention on
transboundary movement of hazardous substances^67^.

Environmental legislation in India, come up with the passage of
time. The original constitution lacked any specific reference of
environment protection. The first significant effort of
environmental protection came in 1976, which provided certain
provision which addressed environmental concern. Issues relating to the protection of the forest and wildlife were included in the Directive Principles of state policy, the fundamental duties and concurrent list. Art 48A and Article 51A(g) cast a duty upon the state and the citizen to protect the environment. Article 48A elaborates that states shall endeavour to protect and improve the environment and work towards the safeguard of the forests and wildlife of the country. Art 51A lays down that it is the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to show respect for every living creature. Besides there are some general laws, which also protect and preserve environment by declaring certain acts as offences. For example, Indian penal code considers certain acts affecting environment as offences. These acts include spreading of infection of any disease dangerous to life section 269, fowling of water of public spring or reservoirs rendering it less fit for the purpose for which ordinarily used (section 277), making atmosphere injurious to health (sec. 278), public nuisance (sec. 290).

Despite the presence of art 48A and 51A in the constitution of India, they were not of much use for certain period of time, Judicial recognition of environmental rights was achieved in India
through the device of public interest (P/L). The judicial innovation of P/L and litter petitions to the Supreme Court and the state High courts boosted the morale of the public spirited individual and environmental organizations. Rural litigation and entitlement Kendra case can be said to be the beginning of new trend. In another instances of environmental pollution, brought into time light through public interest litigation, for example, when the lime stone quarries in the Mussorie Hills created imbalance to ecology and hazard to healthy environment, the Supreme Court ordered the quarrying activities to be closed down. The citizens can claim the redress number Article 32, of the Indian constitution i.e. right to constitutional remedies. India also poses some environmental legislation. Environmental Protection Act came in 1986 under article 253 of the constitution, under which the central government was to coordinate activities of various central and state authorities established under previous laws, such as Water Act & Air Act. The Wildlife (protection) Act, came in 1972, which provides for the protection of wild animals birds, and plants. Forest conservation came in 1986, to check indiscriminate deforestation or diversion of forest land for non-forest purpose. The public liability Insurance Act, 1991 and the National Environmental Tribunal Act of 1995, talks of redress to the people, affected by
hazardous substances. It aims to give compensation for damage to person, property and the environment arising out of any activity involving hazardous substances. The Supreme Court has made effort to work towards the protection of the environment. It has given direction to introduce environmental education as a compulsory subject in schools and collages, and telecasting environmental awareness programmes on television. Besides, the supreme court has given a wide and liberal interpretation of the term ‘the right to life’ keeping in view the growing crisis that is threatening the vitals of the life supporting systems. Vast number of cases has been dealt with protection of water, Archaeological Heritage, mining, tribal rights to forest, waste vehicular pollution, mega projects patents, coastal regulation zone, noise pollution. Though miles is to be done for environmental protection, but efforts taken by the Supreme Court is still praiseworthy.

Environmental right jurisprudence in India is yet to come of age. The constitutionally guaranteed environmental right is poorly defined, therefore offers little guidance in making difficult judgements central to an exercise of this right. Some principles are really difficult to apply in real sense. And the judicial discretion available to judges in public interest environmental litigation are also not able to produce any influential result. But none of the
criticism discussed above, can forgo the fact that the Indian Supreme Court has delivered a vast number of environmentally sensitive decision and have shown great interest in accepting innovative and progressive concept tool in the service of environmental protection.

**Development verses Environmentalism**

The havoc caused on environment due to rigorous development put forth the point that development should be totally minimized. Is it possible? Should development be sidelined to protect the environment? What should be on priority list – environment protection or development? In retrospect, development is primarily a positive phenomenon. It stands for improvement of human life in all spheres. But when it comes to economic sphere some of its negative effects have also been noted. Economic development has led to huge production which causes inexessible destruction of natural resources. Resource depletion, food and water scarcity, extinction of species, climate change, congested but impersonal urban centers have come to be self-defeating manifestation of progress. Most industrial nations have become concerned about environment pollution caused by
automobile exhaust fumes, airplanes, factories and waste products that are emitted into the atmosphere and into our rivers and seas. We are rapidly reaching the time when air many become unfit to breath and water unfit to drink, oil spills and dangerous chemical waste products are turning lakes, rivers and beaches into vast disease - infected servers. Toxic by products of industrial processes are threatening certain animal species with extinction and are slowly undermining the health and integrity of the human species. Can this process continue indefinitely? Do we have unlimited stock of natural resources? This needs to be explored, if no, then what should be done that both run parallel with each other. And all these aspect of environment and development, has led to the formulation of concept of sustainable development.

The relationship between environmental management and development has become very apparent in present times. This can be attributed to the fact that industrialization has been the cause of cause of some of the significant environmental harm such, as ozone depletion, acid rain, rise in sea level, deforestation. The relationship between the two was very much reflected in Rio Earth Summit and proposed Agenda 21, for effective management of the both. In the beginning of human civilization, population was very small, the consumption of natural resource was limited and so it
did not bring any harm to the ecosystem. The consumption of natural resources was so meager that nobody could anticipate any shortage of natural resources in future. But with the passage of time, this consumption enhanced. The changing pattern of their consumption caused contamination of nature. Under the circumstances, new efforts were needed to restore equilibrium between human beings and nature. In political arena, this gave to the rise of environmentalism. It was comfortably assumed that environmental action could wait for development to take over and thus on one hand the developed nations were able to divert themselves of their responsibilities towards funding for environmentally clean technology, on the other hand, they were also able to put off their obligation towards restricting biodiversity exploitation and climate change. It was in this period that effluent discharges from the chemical industries, agro-business, biotechnology research and nuclear weapon proliferation programmes ruthlessly devasted the meagre resources that the south could have laid their hands on. At the end of the other scale, the relationship between economic poverty and environmental degradation has also been the object of significant attention. Poverty also contributes to the degradation of environment as poor people mainly depend on natural resources.
for their livelihood. They are routinely accused of doing harm to the environment. Indira Gandhi was right in saying that ‘poverty’ is the greatest pollutant at the UN conference in 1972. In reality, poverty effects the environment in diminished form, the poor are usually the worst hit by environmental degradation without being solely responsible for it.

The World Conservation Strategy of 1980 for the first time presented a proportionally better view of the problem diagnosis by linking development processes with the environmental distress and thus laid the foundation of the interlinkage and interdependence prevailing between the two. It suggested that there should be maintenance of essential ecological process and life support systems, preservation of genetic diversity and sustainable utilization of species and ecosystem. A more focused and explicit relation between environment and development was brought out by Brundland report. Environment and sustainable development were prominent topics in discussion at the Economic Summit in 1989. Political leader in the largest and biggest countries have paid attention to the Brundland report. Miss Brundland adds that no one can any longer close their eyes to the environmental problem and no meetings can be concluded without its discussion. Another major effort to link environment and development was Rio Earth
summit, which was held in 1992, confirmed the emerging paradigm for making environmental agreement\textsuperscript{100}. The document set out a number of principles which laid responsibility on the state and the people to cooperate in order to protect, 'the integrity of the global environmental and development system'\textsuperscript{101}. By analyzing environment and development as related issues numbers of governments and Advisory Bodies have arrived at new insights, which in turn have evoked very strong demands for change.

At policy level, the nexus between environment and development can be reflected in the concept of sustainable development. But many states consider environment protection as antithetical to economic interest\textsuperscript{102}. The truth is that the environment is fundamental to the economy. Five biological systems — croplands, forests, grassland, oceans and fresh water ways — support the world economy. Except for fossil fuels and minerals, they supply all the raw materials for industry and provide all our food\textsuperscript{103}. Croplands supply food, feed and an endless array of raw materials for industry such as fiber and vegetable oils; forests are the source of fuel, lumber, paper and countless other products, grasslands provide meat, milk, leather and wool, and oceans and fresh water produce food for individuals and resources for industry\textsuperscript{104}. Hence they are the foundation of the economy, stated
in the jargon of the business world; the economy is a wholly owned subsidiary of the environment. When the environment is finally forced into bankruptcy because its resource base has been polluted, degraded, dissipated, irretrievably compromised, then the economy goes down to bankruptcy with it. Thus wise, both are interrelated and none of them can be sidelined for the sake of other. The development of environmentally sound technologies probably constitutes as one of the main vehicles for fostering less environmentally damaging economic growth. These include production technologies and waste management technologies which must be adopted to the various conditions met in different countries and regions. It remains imperative that active policies and implementation mechanism are needed for achieving desirable environmental quality and sustainable standard of living.

Environment - An Important Supporting Variable

We inhabit a global village. That fate carries great promise advances in transportations, communication and commerce expand contacts, mutual interests and understanding among diverse peoples. But it also poses a terrible threat to environmental survival. The increase in economic consumption and production has led to the disbalance of the ecological system. The grandiose
achievement of man in the scientific and technological fields have led to an upsurge of industrialization, urbanization growth of population, proliferation of consumer goods, dams and other big projects, multinationals etc, all considered to be hallmarks of progress and development. On the other hand we are faced with colossal problems of depletion of natural resources, contamination of our rivers, lakes and seas, shortage of food, water, land and air toxic waste dumping on land and sea and a deluge of unmanageable domestic waste\textsuperscript{107}. Reckless use of technological capability has been responsible for much of environmental degradation and its unfavourable effects. There is also the use of natural resources without an effort to sustain a balance in our ecological system Impoverishment of nature is resulting in the impoverishment of man.

We cannot talk of human rights unless we talk of the rights to live in a safe environment. The right to life has a higher status within the hierarchy of human rights norms. If one cannot breath clean air and have safe drinking water and healthy food, how can one talk of human rights. The question of environment protection is not only linked to the quality of life but to the very survival of millions of people. Large scale destruction of forest and vegetable
cover, contamination of rivers and other water bodies, rise of air pollution in the urban areas, is the beginning of the end.

According to FAO estimates, 7.3 million hectares of the world tropical forests disappear each year. Fertile lands are lost at a rate of 25000 square miles every year. The deterioration of natural system in poor and marginal areas is to once a system and a cause of the extreme misery in which hundreds of millions live. Environmental deterioration is no more a theoretical concept. Its effects can be seen in changing nomenclature of ecosystem.

The growing environmental degradation has greatly affected the life of human being as well as other species. The human activities have contributed to the build up of green house gases in the atmosphere, leading to a gradual rise in global temperature. In particular, carbon dioxide is produced when fossil fuels are burned to generate energy or when forests are cut down and burned. The average global temperature in the 1980s had claimed to approximately 59.4 degrees compared with 58.2 degrees almost a century earlier. If such rate of deterioration continues then global temperature may rise by 3 to 5 degrees this century. Climate change is no longer an abstract and remote concept. In the last few years, it manifestation has been many and they are becoming increasingly difficult to ignore. Unseasonal
rains, droughts, excessive foods, devasting cyclones and storms, receding artic ice caps, disappearing wildlife habitats are warming signals showing what havoc can he caused if climate change goes unattended. It is fairly true that earth’s climate has changed on both global and regional scales, particularly in the last few decades. Climate change has emerged not only as important environmental issues but also as significant political issue at national and global levels. Scientist has warned the world community, that it will only get exaggerated in the decades to come.

These changes could have catastrophic consequences. Climate is probably the most important determinant of vegetation patterns and has a significant influence on forest distribution species dominance, plant productivity and in general ecology of forests. Plant communities are associated with certain climate regimes and it will not be illogical to assume that a change in climate is likely to forest vegetation. Climate change could cause irreversible damage to unique forest ecosystems and biodiversity, rendering several species extinct. Conrod C Lautenbacher, Head of the National Oceanic and atmospheric Administration, said, ‘everything is connected in our earth system’ at a panel on ‘Changing climate: Changing health pattern’.
Climate change could cause hunger for millions with a sharp fall in crop yields in Africa. Another major problem that has come to limelight is the difficulties faced by the people living near coastal areas. Global warming and consequent rise in the sea level is posing a threat to the population, turning them into ‘environmental refugees’ in the Sunderbans the largest delta region in the world.

It is estimated that 7000 people out of the 4.1 million people living in the islands would be rendered homeless by 2020 from the Indian part of the Sunderbans. Global warming will also have effect on forest reserves. There is a large dependence of local communities and economy on forest resources and hence any impact on forest vegetation and biodiversity will have adverse implications for the livelihoods of forest dependent communities. The crop productivity and food security will also be severely hit by climate change. It will also affect several weather sensitive sectors like, agriculture forestry water resources and coasts. The impact of these changes will also be felt on human settlements, industry and energy sectors. Rise in temperature by 3-4°C would cause extinction of 20-30% of all the land species and also the displacement of 330 million, people due to floods. Crop productivity will fall, especially in non-irrigated land, as temperatures will rise for all of South Asia by as much as 1.2°C on
average by 2040, and even greater crop loss of over 25% as temperature may rise up to $5.4^\circ C$ by the end of century\textsuperscript{126}. This means an even lower caloric intake for India's vast rural populations, already pushed to the limit, with the possibility of starvation in many rural areas dependent on rainfall for their crops\textsuperscript{127}.

Evidences show that there is great link between deterioration of the environment and health. Climate change is causing much risk to the health of the people. Water scarcity caused by global warming will affect the health of vast populations with a rise in water-borne disease such as cholera\textsuperscript{128}. There will also be rise of dengue fever and malaria due to climate change\textsuperscript{129}. Mortality due to heat related deaths will climate with the poor, the elderly and daily wage earner and agricultural workers suffering a rise in heat-related deaths\textsuperscript{130}. Many studies had been conducted of effects of global warming. The Indian study reveals that girls born during floods were less likely to attend primary school, causing harm to future standard of living\textsuperscript{131}.

The Ethiopian study revealed that children born during periods of drought continue to suffer severe health handicaps throughout their lives\textsuperscript{132}. Scientists have also explicitly stated that hole in the ozone layer and the resultant ultraviolet radiation could
lead to exponential increase in skin cancer\textsuperscript{133}. The percentage of the world population affected by weather disaster has doubled between 1975 and 2001\textsuperscript{134}. The World Health Organization (WHO), estimated that climate change of the last 30 years, already claimed 150,000 lives annually. In 2005, heat waves in Orissa claimed 50 lives\textsuperscript{135}. Hence global warming is a threat to life in many ways, whose intensity is difficult to comprehend. The worst sufferer of global warming is poor people. Global warming will initiate droughts and flooding which will destroy the sources of livelihood for poor people in Africa, Asia and South America\textsuperscript{136}. In all the political debate and hard negotiations on climate change, the poor are most often forgotten. The focus of all the discussion is only on how to reduce the impact of green house gas emission on economic growth. Recent scientific evidence suggests that India will be one of the counties that will suffer most from climate change\textsuperscript{137}. Food production and food security, fresh water supply, forest biodiversity, coastal settlements, fishing and more will be adversely affected\textsuperscript{138}. Unfortunately, the burden of climate change will fall disproportionately on poor communities, namely, dry-land farmers, forest-dweller and fisherman\textsuperscript{139}. The impact of climate change on poorest people may exceed 500 million people\textsuperscript{140}. The poor in India, are already exposed to severe water scarcity, water
pollution, fodder and fuel wood scarcity, land degradation, desertification, droughts and floods. Unable to cope with the current environmental stresses such as drought and water stress, the poor will be vulnerable to climate change and will find it difficult to adopt\textsuperscript{141}. Other dimension which add to environmental deterioration is air pollution, water pollution, acid rain, toxic waste dumping. Air pollution, cause a great deal of bad effect on health of people. According to the United Nations estimates, one fifth of the world’s population, including rural as well as urban dwellers, breathers badly polluted air\textsuperscript{142}. Safe drinking water is unavailable to almost a third of the developing world’s population\textsuperscript{143}. Toxic waste dumping, also cause much damage to the environment. The industrialized nation dump their toxic waste in the third world countries, who even lack technologies to safety dispose them of. All these have greater health hazards.

Henceforth, it can be concluded that a healthy life depend on healthy environment. If there is disturbance in the environment, them life of the people will also get disturbed. Adequate environment, had been rightly included under the ambit of right to life. The fourth Intergovernmental Panel in Climate Change laid down that if the build-up of greenhouses gases and the resultant warming of the planet was allowed to continue unchecked, it was
likely to produce drastically altered weather patterns, leading to considerable land inundation as a result of rising sea levels, adversely affect agriculture and water availability and put many plant and animal species at risk of extinction. The intensity of the problem of environmental deterioration can be assessed from the report. The big powers have also started making some sense towards it. In Feb, 2007 the United Nations, Security Council discussed climate change for the first time. It debated carbon emissions and the dangers they pose to the earth. It can be concluded that over heating of the earth indicates dangers. If land becomes uninhabitable through flooding, as glaciers melt and sea level rise, or through drought as things get hotter, the people now living on that land will move. Some of that movement will be within countries, but some will be across international border- the strains that are likely to occur, cannot be estimated. There will be clashed over limited resources as people will compete over fertile land and drinkable water. All this will not only happen in future, but it is already occurring, making an international relations prolems. Uganda president Museveni, addressed green house gas emissions as, an act of aggression, by the rich nations against the poor. We pollute for decades, they pay the price in lost landscapes and lost lives. As Marx says change in Substructure
(base) can bring a change in Superstruture\textsuperscript{149}. So is the case with environment deterioration. Environment has become an important variable (base) on which enjoyment of all civil, political, social and economic rights, (superstructure) depends.
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Conclusion
The environmental challenges brought about since the industrial revolutions are unprecedented in human history. In an attempt to reverse further deterioration in the global environment, scientific research has been conducted, and numerous negotiations have been held to reach agreements to regulate environmentally harmful activities. Social consciousness of problems has generated environmental movement both at local and global levels. Owing to the ineffectiveness of the existing mechanism in reversing the current level and speed of ecological destruction, the issues of global environmental governance continue to draw full attention in 21st century global politics. Today, society’s interaction with nature is so extensive that the environmental question has assumed proportions affecting all humanity. Industrialization, urbanization, explosion of population, over exploitation of resources, depletion of tradition sources of energy and raw materials and the search for new sources of energy and raw materials, the disruption of natural ecological balances, are the factors that have contributed to environmental deterioration. While the scientific and technological progress of man has invested him with immense power over nature, it has also resulted in the unthinking use of the power, encroaching endlessly on nature.
If man is able to transform deserts into oasis, he is also leaving behind deserts in the place of oasis.

The complexity of relationship between society and nature resists any easy solutions to environmental problems even at a scientific level. Social structures and processes influence our perceptions of the natural world, while new values and knowledge create the necessity of rethinking relations between human activities and environmental changes. Setting up priorities in the politic of global environmental management is entangled with not only conflicting interests but also political and scientific uncertainties. A point has been reached in history, when we must shape our actions throughout the world with a more prudent care, for their environmental consequences. Through ignorance or indifference we can do massive and irreversible harm to the earthly environment, on which our life and well being depends. Conversely, through fuller knowledge and wiser action, we can achieve for ourselves and our posterity a better life in an environment more in keeping with human needs and hopes. There are broad vistas for the enhancement of environmental quality and the creation of a good life. What is needed is an enthusiastic but calm state of mind and intense but orderly work.
For the purpose of attaining freedom in the world of nature, man must use knowledge to build on collaboration with nature for a better environment. To defend and improve the human environment for present and future generations has become an imperative goal for mankind – a goal to be pursued together with and in harmony with, the established and fundamental goals of peace and of worldwide economic and social development.

Global environmental governance has to focus on an array of functional issues, ranging from climate change, ozone depletion and the trans-boundary spillover of pollutants to loss of biological diversity. To achieve environmental goal, there is need of acceptance of responsibility of citizens and communities and by enterprises and institutions at every level, all sharing equitably in common efforts. Individual in all walks of life as well as organization in many fields, by their values and the sum of their actions, will have to shape the world environment of the future. Local and national governments will have to bear the greatest burden of large scale environmental policy and action without their jurisdictions. International co-operation is also very much essential in order to raise resources to support the developing counters carrying out their responsibilities in this field.
There is need of extensive cooperation among nations and actions by international organization in the common interest. The protection of environment calls upon the governments and people to exert common efforts for the preservation and improvement of the human environment for the benefit of all the people. One of the main issues continues to be how to restructure existing institution in order to alter practices that cause negative effects on the environment. Multilateral cooperation has been inadequate to cope with global environmental challenges, and new form of governance is needed to emerge from changes in policy making practice.

Environment deterioration has become a great threat to all human beings. To describe climate change as serious is now generally accepted to be an understatement. It is variously described as the ultimate weapon of mass destruction and a threat worse than terrorism or nuclear war. To understand why it is so, one should look at some basic facts. Global warming is caused primarily by the very foundation on which modern civilization is built- the burning of coal, oil and gas. So much so, a real solution to the problem would include lifestyle changes, something that goes against the grain of the consumer culture and the socio-economic system built on it. Our
earth has not seen anything like this build-up of carbon dioxide for over half a million years. If this continues, by the end of the century the earth will be hotter than at any other time in the last two million years. It gives rise to the question—how far we can go? If the damage is so threatening and the risk so foreboding, how does one assess the future of this planet and where does one draw the line and say this far we can pollute our atmosphere and somehow manage its consequences—keeping fingers crossed about positive feedbacks—but beyond this would be unacceptable chaos? Does the developing situation provide a window and a plausible time frame for humankind to mend its ways and step back before this time? Scientists, activist and policymakers have been grappling with this issue and have now come to a broad understanding of where this line is to be drawn, taking into account all relevant factors. There is considered to be 2°C warming over and above the pre-industrial global average temperature.

The real question is who will bear the cost of lessening as well as living with climate change. The atmosphere can take only so much more pollution by greenhouse gases if the warning is not to cross the 2°C mark and this scarce space is being filled up 60% of the time by
the industrialized countries, which hold less than 20% of the world population. Industrial countries have reached their level of development, riding on low cost fossil fuels, while developing countries need to do the same to reduce their poverty levels and cannot afford the higher cost climate friendly technologies in the short to medium term. Their economic growth rates, and therefore their emissions growth, are also of a higher order compared with industrial countries. It is this dichotomy between luxury emissions and survival emissions that led to the principle of common but differentiated responsibilities and respective capabilities which was agreed by the nations of the world at the 1992 United Nation Convention on Climate Change. It was the first collective step by the nations of the world to deal with the issue. Then there is the responsibility approach i.e. polluter pays principle. This lays responsibility on the nations to pay for the losses they incur to the environment. There is also the capability approach, by which those who are capable of handling mitigation and adaptation, take on the larger share of the burden.

But the real question is, how is any framework to be agreed upon and implemented in a world where the largest polluter is
still in a denial mode, other developed countries make cosmetic reduction and demand that developing countries should start shouldering responsibility and the developing countries steadfastly refuse to do so? The G-77 countries and China have a deep distrust of the progressive sounding European Union and refuse to make any emission commitment. The time is running out. A real world solution that will truly work should be formulated before time runs out. There are other associated problems which are often ignored- the threat of social disruption and warfare. Large sections of the global population will get displaced by the impact of climate change and will have to complete for resources. There is no escaping that any future parley should focus on not merely on emission reductions and sharing of reductions but very largely on just recompense for the damage already done to the atmosphere, which is now hurting the poor of the world through increased droughts and storms and vector diseases, and will undoubtfully hurt them more in the future, and has compromised their future development as well by depriving them of their atmospheric space. It is the ordinary people of different countries, collaborating with each other, who can ultimately bring about the social change needed to prevent effectively the environmental
disaster that looms ahead. Civil society in the developing world has a key role to play in creating among the common man awareness of the magnitude, complexity and social dimensions of this crisis, in which the very future of humankind is at stake unless urgent action is taken.

Today, many resource economists and scientist fear that mankind may be consuming and destroying the living and non-living natural foundations upon which our lives depend. If we continue on our current path, a catastrophe of fearful dimension may befall the human family. And as we look deeply into the question of how to make a better world, every thing leads to one essential fact, i.e. most of our current activities are not sustainable. In spite of the laudable efforts for conservation and recycling, the end result falls short of sustainability. In our current market dynamic and resource utilization we are hastening to our own demise. Sustainable development is the latest expression of a long-standing ethic involving man’s relationship with the environment and the current generation’s responsibilities towards future generations. It is essential that economic growth and development must take place, and be maintained over time, within the limits set by ecology. Also environmental protection and economic development must be
complementary rather than antagonistic process. A primary goal of sustainable development is to achieve a reasonable and equitably distributed level of economic well-being that has been perpetuated continually for many generations. Are we really true to the principle of sustainability? Have we really found out a way to become sustainable in long run? Have we respected the limits set by our environment while pursuing the path of growth and development? Even diehard optimists would hesitate in answering these questions in the affirmative. Then, what has gone wrong?

We have all heard a lot about threats to the future of the earth’s environment in the form of global warning, acid rain, extinction of various species and so on. Unfortunately, the current path of economic growth that we tread resembles more a march towards self-destruction. In spite of the obvious truth that we cannot continue to burn fossil fuels at the present rate, yet there’s no sign of any control. The potential effects of global warming are extreme, with only a few degrees of change are needed to produce massive floods, withdrawal of forests, death and finally extinction of species or entire ecosystem. The growing food security and inequities on the access to food are proof enough of our unsustainable techniques of farming. The options
before us are either to do something better or to perish. Sustainability is the answer to all these problems. And it is our last chance to redeem ourselves and undo the great harm that we have done to our living foundations.

Besides, among all our environmental debts, there is one that we cannot pay, viz extinction. There is no doubt that we need to begin now, we cannot go backward to idyllic notions of infinite resource supplies nor can we continue with business as usual. The need for sustainability is absolutely undeniable and any effort to oppose it, is as shortsighted as they are self-destructive. If the central problem is that we are consuming and destroying our natural resources, the solution lies in building sustainable communities. A sustainable community formulates goals that are rooted in respect for both the natural environment and human nature and that calls for the use of technology in an appropriate way to serve both these resources. Building sustainable communities means striking a pact of co-existence and co-evaluation with nature. Further, the development of values, which will support the movement towards sustainable development, must be encouraged. We must therefore, actively restore damaged habitats and deteriorating ecosystems so that nature
can continue its own sustainable cycle. In other words, environmental sustainability demands the construction of a political order in which the control of natural resources rests, to the maximum extent possible with local communities who are dependent on those resources. Decision making within community must be as participatory open and democratic as possible. The environment is not only about planting trees or protecting tigers, it is about deepening of democracy. It is this message that the environmental movement need to articulate with greater force and conviction to ensure that its protest is translated into effective policy.

Despite the fact that a global environmental crisis was foreseen long back, not much has been done in this direction. Although the scientific community and environmental enthusiasts have set the ball rolling, there has not been any serious political will to support and join them in their endeavor. We are at the edge of a global environmental catastrophe. It is high time we took the threat seriously, and took some meaningful steps in this direction to avoid this. Ecological concern has to percolate beyond scientific community. It should become a real-life, tangible concern of the
people around the globe. Hundreds of new bi-lateral, regional, and
global treaties have been negotiated in the areas of trade,
environment, and development over the past two decades, yet most of
them face profound problems in implementation. At the same time,
disputes over human rights, environmental protection, and economic
development have increasingly become common. One factor that can
also be attributed to defeat in environmental management is interstate
system. The interstate system is incapable of dealing with the crisis.
The state itself is suffering from a crisis of legitimacy and a crisis of
capacity. In some ways it is too small for dealing with the crisis,
which has global aspects, in other ways it is too big, given the local
aspects. The crisis of the state is stimulating discussing about political
identity, human rights, democracy and accountability. It opens up
space for real discussion of a new world order and the role of
democratic participation below and between states, and on which the
whole sustainability process ultimately depends.

Environmental management is easier in small, culturally
homogenous communities with less economic disparity. Uncertainties
about the social dimensions of environmental changes increase with
disagreement on values and differences in political systems. Due to
the fact that population growth, enhancement of technology, and access to resources are uneven both within and across states, it is not easy to impose universal environmental standards. The dynamics of environmental politics is characterized by the fact that no superior authority exists in the global arena to bind everyone to the rules for the proper use of the environment. The current global regime is off balance. There should be transparency and good governance. In addition to this, emerging public-private partnerships are frequently seen as one of the most effective strategies to address environmental and broader sustainable development issues. Public-private partnerships offer an alternative to privatization “by combining the social responsibility, environmental awareness and public accountability of the public sector, with the finance, technology and managerial efficiency.

Do we need environmental efforts at the global scale? What functions are essential at the global level? Where has the existing system fallen short? What would an effective institutional mechanism for addressing global environmental problems look like? These are some of the questions that should be explored to gain an effective regime and plausible answer to environmental protection efforts. In
present times, the environmental protection requires international collective action. It demands for global environmental mechanism that should work towards provision of adequate information and analysis to characterize problems, track trends, and identity interests. Though there had been many agreements at international level but the world community still lacks effective institutional and legal mechanism to address global scale environmental degradation. This deficiency weighs ever more heavily as nation states come to recognize their inability to address critical problems on a national basis.

The current international environmental regime is weak, fragmented, lacking in resources, and handicapped by a narrow mandate. More than a dozen of international agencies share environmental responsibilities, yet environmental conditions are not improving across a number of critical dimensions. Problem such as climate change, ocean pollution, fisheries depletion, deforestation and desertification still persist. These problem demand collective action on a global scale, yet there is no established and effective forum where parties can engage in a sustained and focused dialogue, identify priorities, and devise action plans for tackling environmental
concern with world-wide implications. It is time to re-engineer the regime, aiming for a new, forward-looking, efficient architecture that will better promote the environment while also serving governmental, public, and business needs. The global environmental mechanism needs to be formulated to solve the diverse problems.

The global environmental management requires combined efforts of the North and the South, which is essentially absent in present times. This challenge explores four questions:

(i) Who is responsible for climate change
(ii) Who is affected by its consequences?
(iii) Who should act in response?
(iv) What is to be done?

(a) Who is Responsible?

The nomenclature of the biosphere is being disturbed by the exploitation of resources by human being. The blame lies on the South and well on North, for causing greenhouse gas emissions. This is due to population growth of the South and increased consumption by the North, especially of non-renewable resources, such as coal, oil and natural gas. It is therefore imperative that both developed and
developing countries make a substantial commitment to action and assist in the implementation of the necessary measures.

**Who is affected?**

Environmental degradation has led to potential differences into the lives of the developing world people. It is the poor people who are bearing the cost of desertification, deforestation, waterborne diseases, acid rain etc. Million of people are being displaced, due to rising sea level. In short, it is the poor people who suffer the most as they have very limited ability to respond to these crises.

**Who should Act?**

The divergence between the countries most responsible for and the countries most affected by, climate change creates a profound ethical dilemma. The developed countries are not ready to give up or help the developing countries in providing technologies. On the other hand, the developing countries are not ready to reduce their fast pace of development. Subsequently this creates constitutional deadlock. No government is ready to compromise a little. Hence global climate change requires a response encompassing the North and the South, local communities, and the global community of nations.

**What is to be done?**
Climate is an extraordinary complex system with many delicately interrelated components. Research studies and data analysis should be done from time to time to assess the actual condition of the environment. Also efforts should be made to end the gap between the North and South. There should be efforts for technological progress that can play a key role in a transition towards sustainability. Also innovative governance is needed to tackle environmental problems. Adequate financing agency is also essential for the efforts to be taken for environmental protection.

Despite more than two decades of efforts, environmental condition continue to deteriorate across a number of critical dimensions, and the international community lacks effective legal and institutional mechanism to address global environmental problems. The success stories of international environmental agreements are greatly outnumbered by its failures. It makes us to ponder why do some environmental treaties succeed while other fail? How can states make environmental regimes more effective? States generally care about their own interests ignoring the fact that environmental problems are marked by interdependence. Thus activity in one state often affects the environmental interests of neighbouring states. The
environmental goals cannot be achieved through unilateral agreements. Moreover, self-interested states may, quite rationally, wait for other states to act first, and they can also decide to maximize their gains by not incurring the costs associated with environmental controls, while enjoying the benefits of other states environmental efforts. Of course, if every state thinks this way, no state will impose environmental controls. Paradoxically, pursuit of narrow self-interest can be counterproductive when public goods, such as the atmosphere and oceans, are at issue. Collective efforts can help to solve the problem.

New vision, new diplomacy, and unprecedented cooperation among nations of North and South are needed in order to sustain the earth and its people. The great environmental challenges of the global commons – the greenhouse effect, ozone depletion, species loss, and protection of the marine environment – cannot be met without the involvement and cooperation of the developing countries. Similarly, major initiatives to alleviate poverty, stop forest destruction, improve agricultural productivity, pursue sustainable energy strategies, and improve land and water resources management in developing countries cannot be accompanied without massive financial
resources. A sharp increase in the flow to the south of new financing and new technology is essential for tackling the interrelated problems of poverty, environmental degradation, and rapid population growth.

All is not well yet in this arena, but is important to acknowledge what has been accomplished. The environmental movement has led to the acceptance of plethora of environmental agreements. Some of the prominent among them is Stockholm Conference, Rio Declaration, Kyoto Protocol and World Summit in 2002, etc. In academia, International Environmental Affairs has become a major subject of intellectual inquiry and teaching. The Stockholm Conference led to the creation of UNEP, which today works for protection of the environment. This conference can be said to be Magna Carta of environmental agreements. Second major conference was Rio Earth Summit, which brought many leaders of the world together to discuss environmental issues. It was a giant leap for mankind measured in the knowledge increase and the number of the protection of the environment was discussed. It focused on important and often conflicting issue-environment and development. All these efforts have led to great deal of environmental awareness at national and international level. The success of environmental agreements is very
not very bold enough to be appreciated but also they cannot altogether considered to be insignificant. There are hopeful signs that things are beginning to change for the better, but we are still at the early stages of the journey to sustainability.

Some suggestions that can help in the fruitful formulation of policies regarding protection of environment:

- It is essential to create a shared international vision of long-term goals and to build the international frameworks that will help each country to play its part in meeting these common goals.

- Expanding and linking the growing number of emissions trading schemes around the world is a powerful way to promote cost-effective reductions in emissions and to bring forward action in developing countries: string targets in rich countries could drive flows amounting to tens of billions of dollars each year to support the transition to low-carbon development paths.

- Informal co-ordination as well as formal agreements can boost the effectiveness of investments in innovation around the world. Global support for the deployment of new low-carbon technologies should increase up to five-fold. International
cooperation on product standards is a powerful way to boost energy efficiency.

- The loss of natural forests around the world contributes more to global emissions each year than the transport sector. During deforestation is a highly cost-effective way to reduce emissions; large-scale international pilot programmes to explore the best ways to do this should get underway very quickly.

- The poorest countries are most vulnerable to climate change. It is essential that climate change be fully integrated into development policy, and that rich countries honour their pledge to increase support through overseas developing assistance. International funding should also support improved regional information on climate change impacts, and research into new crop varieties that will be more resilient to drought and flood.

- Treaties must be individually rational. As sovereign states are under no obligation to join any treaty regime, joining the treaty must advance a state’s interests more than not doing so. Well-designed environmental treaties must be structured so that no party can gain by withdrawing from the treaties and no party can gain from failure to comply with the treaty.
• Treaties must be fair. Fairness does not receive substantial attention while framing of treatise. States will welcome such kind of treaty more and will work together for its success.

• Efforts should be made to synergies environment and economic development. Both is needed to be understood in a long term perspective.

• There should be research for an improved understanding of climate change related issues.

• Efforts should be undertaken to adapt sustainable development pathways.

• There should be focus on increasing the adaptive capacity of the poor and global arrangement to reduce emissions of greenhouse gases.

• Industrialized countries have an obligation to lead developing countries by shifting to sustainable development paths that would lead to significant reduction in greenhouse gas emissions; promoting aggressive research on environmentally sustainable technologies; transferring such technologies to developing countries; and making large investments in climate-friendly technologies in developing countries.
• Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factor underlying world poverty and international inequality.

• There should be monitoring and reporting mechanism to provide a repository for information on compliance with agreements and established norms, and a continuous and transparent effort.

• There should be conduction of awareness programmes regarding environmental protection.
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