

# **INDIA'S RESPONSE TO GLOBAL ENVIRONMENTAL PROBLEMS**

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**BARENDRA NATH DHAL**

**CENTRE FOR POLITICAL STUDIES  
SCHOOL OF SOCIAL SCIENCES  
JAWAHARLAL NEHRU UNIVERSITY  
NEW DELHI-110067  
INDIA  
1994**



जवाहरलाल नेहरू विश्वविद्यालय  
JAWAHARLAL NEHRU UNIVERSITY  
NEW DELHI - 110067

Centre for Political Studies

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(Prof. ASWINI K. RAY)  
Chairperson

  
(Prof. ASWINI K. RAY)  
Supervisor

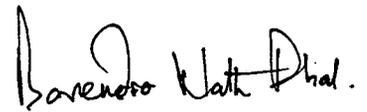
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*"Ruin is the destination towards which all men rush, each pursuing his interest in a society which believes in the Freedom of Commons. Freedom of Commons brings ruin to us all".*

GARRETT HARDIN

My whole work aims at a critical examination of present environmental predicament, the whole world faces. This study seeks to create a descriptive and theoretical portrait of different global environmental problems. There may arise an question that how do the domestic environmental policies determine the global environmental policy perspective? But I have dealt here only the attitudes and responses of India to global environmental problems in major environmental conferences and not any domestic environmental policy and initiative. Now the global environmental condition is deteriorating so violently that if the present generation would not take the right kind of attempts to check it, the whole life will be at grave stake. This paper specifically describes India's response to the global environmental problems. In all major international environmental conferences, the views and opinions of India are taken into consideration. The whole discussion and argument resolves around the developed countries (North) and developing countries (South) in general and of India in particular.

It was intended to show that with respect to both their "genesis" and the 'way' these problems are handled, must be seen in an international perspective. The inter-dependence between the ecological and the economic problems of the industrial countries and the developing countries generate common interest of North and South. It is essential to recognize this inter-dependence better and faster and to make it a topic in the North-South dialogue.

This paper proposes to explore the relationship between environment and development. Here the question of "sustainable development" explicitly comes into forefront. This concept of sustainable development has become the major area of discussion since the Stockholm Conference in 1972. So, the very nature of the environment is the sustained kind of economic development. Economic development in a good environmental condition is called sustainable development. Structuring a good environmental international co-operation and rationalising it in the North-South dialogue has become now a needed urgency, on the face of the prevailing antagonism born out of Third World resentment over First World injustice.

It also discusses how to attempt the transformation of the North-South tension into a friendly and permanent North-South co-operation for the protection of our global Commons (air, water, land). The relation between environment and development is becoming a cause-effect relation in discussion. The environmental challenges are becoming major social concerns. The developing nations are relating environment with socio-economic issues. They can't ignore the poverty and environment relationship. The nexus between poverty and environmental degradation can hardly be overemphasised. This is the major issue and the biggest challenge. The vast majority of the people in India are directly dependent on the natural resources of the country for their basic needs of the food, fuel, and shelter. Environmental degradation has adversely affected the poor who depend upon the resources of their immediate surroundings. Thus, the challenge of poverty and the challenge of environmental degradation are not two different challenges but two facets of this same challenge.

Among the Third World countries, India has taken the stewardship in all environmental conferences. For India, environmental conservation is not a new concept. The Indian

tradition of love, respect and reverence for Nature goes back to time immemorial. Some of the fundamental principles of ecology - interrelationship and interdependence of all life - were conceptualised in Indian ethos and reflected in our ancient scriptures. The historical evidences, surviving till today in India, are the first recorded measures on conservation anywhere in the world. Today, India is no exception to the global phenomenon of environmental degradation. It shares, with the poors that constitute 70% of the world's population, the painful results of the deterioration of its natural resources.

India has often been described as rich land with poor people. Its average annual precipitation, the second highest in the world, next only to South America, its perpetual sunshine and other natural resources - natural and human - place it among the potentially rich nations. India was the first country to raise her voice for the Third World poverty in the Stockholm Conference (1972).

Today, there is widespread realisation that technology alone cannot solve environmental problems and we have to use all our ingenuity to find solutions which combine the best

of our old-practices with the benefits that modern science and technology can offer. We need to develop and modernise in less wasteful ways than is the current paradigm, without loosing our sound traditional values and practices. While we believe in a common future, we know that it is the decisions made today that will decide the very nature and the identity of the future. These are the questions being asked the world over and become the basis of the declaration of all major environmental conferences in my work.

I have categorised my work into four chapters. The first chapter attempts to describe different kinds of global environmental problems, the nature of environmental problems in the Third World or Developing Countries and Developed Countries and how the global environment becoming unsafe for living beings.

The second chapter spells out India's role and responses in the Stockholm Conference in 1972. The Stockholm Conference is the first systematic international environmental conference under the aegis of the United Nations. India's Prime Minister, Late Mrs. Indira Gandhi, stressed that "poverty is the greatest polluter". There is an elec-

tive link between Third World poverty with development of North.

The third chapter deals with the Montreal Protocol and India on Ozone layer issue in 1987 and ended with the London Declaration in 1990. The Montreal Protocol was a response to a new type of problem (Ozone layer depletion) facing the modern world and also discusses how the Montreal Protocol became a prototype for an evolving new form of international co-operation. It also takes the drawbacks of the Montreal Protocol into account which paved the way for London Declaration in 1990.

The fourth chapter attempts to examine the Rio Earth Summit and India's role in it. It also discusses how India led the Third World countries to stress the views of developing countries. This Conference was to examine the interlinked problems of environment and development since U.N. Conference on Human Environment in Stockholm in 1972. Rio Earth Summit is projected as a last attempt to save the planet. Rio Conference is to move the environment issue into the centre of the development agenda and of economic and sectoral policy-making. This chapter also discusses the

concept of "Sustainable Development" very comprehensively. It also discusses how issues divided between the North and South nations at Rio. It also attempts to describe the schism not only between North and South but also within the developing countries.

In every conference, the issues were sharply divided between North and South. Both the developed and developing countries projected their own views without having coherence on a single issue. However, it does not mean that nothing have been achieved. In every chapter, there is a critical assessment which examines the whole process of the conference. In every chapter, India's role is discussed in Third World perspective. India has projected her own views in every conference taking Third World nations' problems into consideration.

In concluding chapter, a summary observation and the critical assessment of the whole work is attempted. It briefly discusses World Bank's approach to environmental problems. It also discusses what should be our attitude for a safe environmental management and can the developed and the developing nations do something for the betterment of "Our Common Future".

**Chapter I**

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**Global Environmental Problems**

The right to be healthy, the right to drink clean water and the right to breathe clean air are the most fundamental and universally recognised basic concerns of human beings. As a result, every nation of the world is committed to protect the natural environment to her citizens. So, the very importance of this natural environment is overtly and apparently known to all.

"Environment", may be defined as whatever environs or encompasses, especially one's surroundings collectively which affects the life and development of an organism. In simpler terms, our environment is our surrounding including both living (plants, animals and people) and non-living (land, water and air) components of it. These components of the environment also constitute our environmental assets or resources. Protection of the environment is one of the most pressing need of today. Tension and even crisis situations have arisen more once in mankind's relationship with nature during its historical evolution but in recent decade, there have been qualitative shift in the character of these relations.

This environmental issues became more important after

the Second World War due to the international environmental movement. It became more evident when people became conscious of common stake of humanity in the protection of the biosphere and moved to persuade their governments to act in conformity with this awareness. Man's desire for more joy and comfort has led him to exploit nature's free goods to the extent of reducing its natural capacity for self stabilization. Man has been indiscriminately manipulating the environment and nature to fulfill his narrow selfish interests. Most of the environmental difficulties originate from man's ecological misbehavior. The whole world is so much worried to provide a stable ecological bio-diversity.

Today's ecological problems consist in the deterioration of man's natural environment through industrialization and urbanization of his mode of life, exhaustion of traditional energy and raw material resources, constant growth of demographic pressure on nature, disturbance of natural ecological equilibrium, the economic elimination of individual species of animals and plants, the negative genetic consequences of the pollution of nature by the wastes of his economic activity, including the danger of a genetic degen-

eration of mankind itself. Steady scientific and technical progress has secured an unprecedented growth of man's power in relation to nature.

The advances of technical progress of the last century in one hand and the lack of knowledge of the structure and functioning of the whole life system on earth i.e. the biosphere on the other hand, have been the real basis why we forgot for a time that there are objective limits to our action on nature. The consequences have demonstrated that our interference with nature can not be unlimited. Since the beginning of mechanization, we have been inflicting cruel blows on nature. During the contemporary scientific and industrial revolution, these blows have been growing in power. The ecological problem is now becoming not just one of the pollution of the environment and other deleterious effects of our economic activity on earth but also one of transforming our anarchic impact on nature into a conscious, purposeful, systematically developing interaction with her. We must closely follow the results of our impact on every one of the components of our plant's life system. The planning and optimising of our interaction with nature and regulating of our impact on nature so as to create a maxi-

mally humanized habitat is becoming one of the most urgent issues of the final decades of the twentieth century.

### MULTITUDE OF PROBLEMS

Environmental problems not only cross borders with impunity but challenge long cherished tenets of international relations. International efforts to protect the natural environment date, at least, to the 1870s when Switzerland tried to establish a regional agreement to protect the nesting site of migratory birds. But move to internalize environmental policy making did not get serious momentum until the 1970s.

Rapid population growth, fast industrialization and urbanization, technological explosion have all directly contributed to the growth of this irritants. The maddening race for global industrialization is adversely affecting man and nature in more ways than one. The delicate balance of environment and ecology in nature, psychological stability of human society, growing stress on human relations all are perilously close to crumbling down under its impact. This development has damaged and deteriorated the ecological

system and caused widespread destruction of natural resources on which human life and wellbeing depend<sup>1</sup>.

Industrial production has grown more than a hundred fold, emission of a number of toxic metals including cadmium and lead because of human activities have become several times the level emitted from natural resources. Air being of vital importance, can not be exploited to the extreme when it becomes unsafe for use. Its capacity to assimilate waste gases is not unlimited. The chemical industry generates an increasing quantity of substances every year, adversely affecting the essential aspect of composition of the atmosphere, soil, water. In the industrial high density areas, in addition to the effects on local health and impact on nature, we are confronted with damage to the social and economic functions of the environment<sup>2</sup>.

Water also is polluted by different kinds of substances like traditional organic wastes, waste generated from indus-  
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1. John Ganaseelam and Jagdish Gandhi. The financial express, 1 Jan. 1992, Bombay.

2. K.D. Saksena. Environmental Planning, Policies and Programmes. Shipra Publication, New Delhi, 1993.

trial processes, chemical agents for fertilizers and pesticides for crop protection and silt from degraded catchments. While, it is estimated that three fourth by volume of the waste water generated is from municipal sources, industrial waste, though small in volume, contributes over one half of the total pollutant load, and the major portion of this is coming from large and medium industries<sup>1</sup>. The increase in population is further enhancing the pressure on the environment. The depletion of forests has been accompanied by increasing amount of pollution affecting atmosphere, soil and water<sup>2</sup>.

This chapter aims at a examination of major and critical environmental problematics. These may include loss of Bio-diversity; rainforest destruction; global warming and green house effects; Ozone layer depletion; population explosion and others. These are global environmental threats remained common to all peoples in the world. I have briefly explained these problems categorically.

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1. Krishna Gopal. "Space industrialization". The Statesman, April 4, 1992. New Delhi.

2. Ibid; p. 6.

## LOSS OF BIO-DIVERSITY

Diversity is the characteristic of nature and the basis of ecological stability. Diverse eco-systems give rise to diverse life forms, and to diverse cultures. The co-evolution of culture, life forms and habitats has conserved the biological diversity on this planet. Cultural diversity and biological diversity go hand in hand. Communities everywhere in the world have developed knowledge and found ways to derive livelihoods from the bounties of nature's diversity, in wild and domesticated forms.

Today, however, the diversity of eco system, life forms and ways of life of different communities, is under threat of extinction. Habitats have been enclosed or destroyed, diversity has been eroded and livelihood deriving from bio diversity are threatened. Tropical moist forests cover only 7% of the earth's land surface but contain at least half of the earth's species<sup>1</sup>.

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1. Vandana Shiva. "The violence of Green Revolution": Ecological degradation and political conflict in Punjab. Third world Network, Thailand, 1989.

Deforestation in these region is continuing at a rapid pace, with very conservative estimates suggesting rates as high as 6.5% in Cote d'Ivoire and averaging about 0.6% per year (about 7.3 million ha) for all tropical countries. At this rate, which is a net figure and incorporating reforestation and natural growth, all closed tropical rain forest would be cleared with 177 years (FAO,1981). RAVEN, an environmentalist (1988) estimates that about 48% of the world's plant species occur in or around forest areas where over more than 90% of their area will be destroyed during the next 20 years, leading to about a quarter of those species being lost. WILSON (1988) has estimated that the current extinction rate is 1006 species a year. By the 1990, the figure is expected to rise to ten thousand species a year. During the next 30 years one million species could be erased<sup>1</sup>.

Livestock populations are also being homogenised and their diversity is being irreversibly lost. The carefully evolved pure breeds of cattle in India are on their way to extinction. The Sahiwal, Red Sindhi, Rathi, Tharparkar,  
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1. Ibid; p.8.

Hariana, Ongole, Kankregi, Gir are cattle breeds developed for different eco-niches where they had to survive and support the needs of the local communities. Today, they are being systematically substituted by cross breeds of Jersey and Holstein cows<sup>1</sup>.

The lure of spectacular profits continue to drive the trade in endangered species and derivative products. Despite counter-vailing laws and treaties, consumers remain willing to fuel a scandalous global business.

The problem of habitat destruction exists in every continent, but it is particularly serious in the humid tropics where the major species loss are predicted. Viewed in terms of biological diversity, the moist tropical forests of Africa, Asia and Latin America hold an importance far beyond the land area they occupy. Many tropical forests lie within countries that though biologically affluent, are economically poor and whose governments are not inclined to value the long term ecological goals above immediate econom-

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1. Vandana Shiva. "Bio Diversity" : A Third World perspective. Third World Network, Malaysia.

ic gains.<sup>1</sup> Bio-diversity erosion starts a chain reaction. The disappearance of a species is related to the extinction of innumerable other species with which it is inter-related through food webs and food chains and about which humanity is totally ignorant. There are two primary causes for the large scale destruction of biodiversity. The first is habitat destruction due to internationally financed mega projects such as the building of dams, and highways and mining operations in forested regions rich in biological diversity<sup>2</sup>. The Narmada Dams will submerge large areas of forests in the Narmada valley in India. The Sardar Sarovar project will submerge 11,000 ha and the Narmada Sagar will submerge nearly 40,000 ha forests land. Besides direct destruction of bio diversity in these forests, the submergence will irreversibly destroy the survival base of tribal in the region.

The second primary cause for the destruction of bio diversity in areas under cultivation is the technological  
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1. Erick P. Eckholm. "Down to Earth" : Environment and Human Needs. Rajkamal Electric Press, Delhi, p. 182-83.
2. Ibid; pp. 184-85.

and economic push to replace diversity with homogeneity in forestry, agriculture, Fisheries and animal husbandry<sup>1</sup>. The Green Revolution in agriculture, the white revolution in dairying and the Blue revolution in fisheries are revolutions based on the deliberate replacement of biological diversity with biological uniformity and monocultures<sup>2</sup>. The spread of monoculture of "fast growing" species in forestry and high yielding varieties in agriculture has been justified on ground of increased productivity. All the technological transformation of bio diversity is justified in the name of "improvement" and increased "economic value". However, "improvement" and "value" are the neutral terms. They are contextual and value laden. The categories of "yield" "productivity" and "improvement" which have emerged from the corporate view point have, however, been treated as universal and "value neutral"<sup>3</sup>.

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1. Martin Khor Peng. "The Future of North-South Relations" : Conflict or co-operation. Third world Network, Malaysia, 1992.

2. Ibid; p. 20.

3. Vandana Shiva. Bio-Diversity" : A Third world Perspective. Third World Network, Thailand.

The dominant view ignores the primary causes of bio diversity destruction and instead, focuses on secondary causes such as population pressure. However, stable communities in harmony with their eco system, always protect bio-diversity. It is only when populations are displaced by dams, mines, factories and commercial agriculture that their relationship to bio-diversity becomes antagonistic rather than co-operative<sup>1</sup>. But species extinction impact could be even more felt in the creation and production of new drugs and medicines whether antibiotic or contraceptive pills. In fact, exports estimate that about a third of all prescription medicines owe their origin to plants. But of the worrisome and threatening could be the impact of the loss of bio-diversity on world's food scarcity. Natural eco systems influence the climate, generate and maintain soil, regulate atmospheric gases, control hydrological circle, help in waste disposal and nutrient cycling, provide protection to crops and perform myriad of other jobs. The eco system services in which the bio-diversity plays the critical role are provided on such a grand scale and in a manner so indi-

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1. Vandana Shiva. *Bio-diversity: Social and Economic Perspective*, Third World Network, Thailand.

cate that there is no real possibility of substituting for them. So, the crisis of bio-diversity is not just a crisis of a disappearance of species which have the potential of spinning dollars for corporate enterprise by serving as industrial raw material. It is more basically, a crisis that threatens the life support system and livelihood of millions of people in Third world countries<sup>1</sup>.

### RAINFOREST DESTRUCTION

Forests, both temperate and tropical, are an integral part of the life support system of the planet, performing numerous ecological and social functions that are essential for the continuation of life as we know it on earth. Such functions include regulating climate, providing a habitat for the majority of species on earth, providing a homeland and a spiritual bases for millions of forest people, maintaining and conserving soil and regulating hydrological cycles and ensuring water supplies.

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1. Regional strategy For Environmental protection and rational use of National Research, United Nation Publication.

Forests are vital to maintaining current global climatic patterns and play a critical role in regulating rainfall patterns, certainly at the regional level and in all probability at the global level as well. The tropical forests act to spread out solar radiation to temperate zones in a manner that is both swift and efficient. Massive quantities of carbon are locked up in the forest bio-mass which would add considerably to global warming. Forest may also be net consumers of carbon dioxide, although this is a matter of controversy. Forest particularly in the tropics, are fundamental to rainfall patterns. Research in the Amazon, in particular, has revealed moisture to the atmosphere through evapotranspiration.

It is the richest habitat on earth although tropical rain forests only cover some 12 percent of the total land surface of the globe. They contain at least 50 percent and probably 90 percent of all the species on earth.

As estimated 50 million tribal people out of the world's total of 300 million indigenous and tribal people, live within the world tropical forest. Tribal people rely on the forest throughout their livelihood. Deforestation inevi-



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tably results in the loss of forest products. Tribal people who are threatened by deforestation represent an unique culture which is under threat, worldwide. Generally, they live in small cohesive communities that are economically self sufficient and are themselves part of larger culturally distinct groups which may or may not act as political units.<sup>1</sup> For indigenous people , life and earth are synonymous. The earth is their foundation, the source of their hospitality, the fountain from which their cultures and languages flourish. The earth is the keeper of events and the bones of their forefathers, the substantial evidence of their people's existence before memory. The earth is their historian , their educator, the provider of food, medicine, clothing and protection. She is the mother of their race.<sup>2</sup>

The continuing loss of the world's forest now constitutes a global emergency. In many temperate regions of the world, forests have been severely depleted. An estimated one-third of temperate broad leaved forests have been lost

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1. Rain Forest Destruction: Causes, Effects and False Solutions. World Rainforest Destruction, Thailand.

2. Ibid; p. 19.

since the dawn of agriculture. Continental Europe was still 90% forested during Roman time. Today, West Germany is 30% forested. Italy 27% forested and France 25%. In Britain, the forest cover is down to mere 9%. As a whole, Western Europe has lost almost 70% of its forests since Roman times. Few virgin forests remain outside Canada, Alaska and the erstwhile U.S.S.R. and in many instances, even these are under threat. Almost, one-third of India's total land mass is badly degraded and about half of the forest area in the country has poor forest cover. Increasing population, livestock pressure and soil and wind erosion continue to undermine the natural resource base and are endangering vital life support.<sup>1</sup>

Historically, agricultural and urban development has been the prime cause of forest destruction in temperate areas. Today, there is a new threat throughout the temperate world. The trees of all types are rapidly being afflicted by pollution and by pollution related diseases, a syndrome known generically as "Waldsterben" or forest death. World-

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1. People Oriented strategies for regenerating India's wasteland. Ministry of Environmental and Forest, Govt. of India, 1992.

wide, all tropical countries have experienced a massive increase in the rate of deforestation since Second World War. Many countries which are now virtually stripped of their forests were once heavily forested.<sup>1</sup>

The long term and immediate consequences of global deforestation threaten the very survival of life, as we know it, on earth. Indeed, the scale of deforestation and its impact now represents one of the gravest emergencies ever to face the human race. Deforestation particularly in the tropic is causing a loss of biological diversity of an unprecedented scale. As Poore and Sayer note : the tropical forest species are especially prone to extinctions. As a result of tropical deforestation, at least, one species is being condemned to extinction everyday.<sup>2</sup>

So far as future human welfare is concerned, the importance of preserving the genetic diversity of natural world cannot be overemphasized. Given the importance of forest product to the daily lives of forest people, the destruction

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1. Vandana Shiva. *Biotechnology and the Environment*. Third World Network, Thailand.

2. Ibid; p. 20.

of tropical forests entails the displacement, decimation and even extinction of tribal population on a massive scale. The threat to traditional forest people comes both because their land lie in territory that can be profitably opened up for development and because of government policies aimed at their integration into mainstream society. In the majority of cases, the destruction of their cultures spells physical and social doom for the tribal people. The result is increasing alienation, with a growing incidence of alcoholism and prostitution among acculturated tribals.<sup>1</sup> -

Deforestation is causing severe and irreversible ecological degradation resulting in increased erosion, desertification, flooding and drought. In a natural undisturbed ecosystem, erosion is relatively limited. In many Savannas and forests of West Africa, some 0.05 to 1.2 tonnes of soil per hectare, per year may be lost naturally. Cultivation, however, leads to a dramatic increase in soil loss.<sup>2</sup>

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1. Ibid; Page 21.

1. Ibid; Page 24.

In India, an estimated 6,000 million tonnes of top soil are annually eroded, much of it the direct result of deforestation. On an average, the country is losing 30 tonnes of soil per hectare every year. The economic cost of soil erosion are immense. According to World Bank, "soil erosion" in India removes nutrients worth US \$6 billion a year in chemical fertilizer replacements. The social impact of soil erosion and degradation is severe. Where the land eventually becomes too degraded to farm, the social effects of soil erosion go beyond enforced migration and translate into malnutrition, starvation and famine.

#### GLOBAL WARMING AND GREEN HOUSE EFFECTS

Deforestation threatens major climatic consequences, both by disrupting global heat transfer mechanism and through adding to the green house effect. Atmosphere is the most universal "common". As humankind enters the last decade of the 20th century, global climate change is threatening years of conservation investment. The topic considered as one of the most critical environmental issues of our age has triggered conservationists and government representatives to

investigate seriously the effect of global climate change on the natural world. No other conservation issue has so captivated the public imagination in industrialized countries as that of climate change. The profligate use of natural resources such as coal, oil and tropical timber and the global nature of resulting problems, have transformed the green house effect from being merely a complex scientific theory to one of the greatest international concerns of the late 20th century.<sup>1</sup>

The global warming phenomenon, also known as "the green house effect", refers to a predicted warming of the earth's surface due to increasing atmospheric concentration of gases like carbon dioxide (Co<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), chlorofluorocarbons (CFCs), and water vapours caused by forest fires, the burning of fossil fuels and deforestation. These gases which remain trapped in the atmosphere let in the sun's warming rays but block reradiated excess heat from escaping back into space causing the surface of the

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1. Adam Marikham. Slowing down climate change, The Hindu, Madras, April 22, 1990.

earth to warm up.<sup>1</sup>

The green house gases, primarily carbon dioxide, play a crucial role in regulating the temperature of the earth and the earth's atmosphere. In the absence of these gases, the average surface temperature would be 33 degree celsius colder, (-)18°C instead of the present value of (+)15°C and the earth would be frozen lifeless planet. The natural green house effect of atmosphere is thus an essential component of the regulating mechanism which has maintained the earth's climate within a range, suitable for the development of life in the course of four billion years. This green house effect has already committed the earth to a global warming between 0.8 and 2.5 degree centigrade by the year 2030 A.D or even much earlier. However, there is now a concern that tropospheric temperature will rise further due to steadily increasing concentrations of the various green house gases. This projected warming will cause the sea levels to rise rapidly, spelling doom to several coastal cities, low laying

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1. Global Change, compiled by Steering Group of Global Change, CSIR, New Delhi, July 1990.

areas, beaches and wetlands.<sup>1</sup>

The burning of forests add nitrous oxide to the atmosphere as does the use of nitrogen fertilizers. Nitrous-oxide has a residence time in the atmosphere of 170 years and its levels are increasing by 0.4% a year. It also contributes to the depletion of stratospheric ozone ( $.O_3$ ). The vast majority of the population of the Third World depend directly upon the soil for their livelihood whilst of the countries of the temperate North have destroyed their forests with relative ecological impunity, the same is not true for the countries of the tropical South.<sup>2</sup> It is likely that the tropical regions would have some disadvantage for growing some crops because of increased temperature.

With global temperature projected to rise by  $3^{\circ} C$  by the year 2030, the social and economic consequence of the green house effect are likely to be devastating. The rate of extinction of species will be great as habitats will change

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1. A. N. Rai. Reversing Green House Effect. The Patriot, 23rd April, 1990.
2. S.K. Shina. Climate Change: Who is responsible for the present state, The Times of India, New Delhi, 19 May 1990.

faster than the ability of many species to adopt. While the  
poors bear the full force of the ecological and social cost  
of these consequences, the financial rewards have been oc-  
curred by a small minority of the world's population, prin-  
cipally the elites of the Third world and consumers in the  
Northern industrialized countries.<sup>1</sup>

#### OZONE LAYER DEPLETION:

The ozone layer in the stratosphere is nature's sun  
screen which protects life on earth by absorbing highly  
carcinogenic ultra-violet rays. Ozone perhaps is the most  
important trace gas as its depletion in the stratosphere  
leads to an increase of UV-B on ground with its harmful  
effects on health, eco-systems, aquatic systems, materials  
etc. Chlorine and Bromine containing chemicals can lead to a  
significant decrease of the stratospheric ozone. Ozone is  
form of oxygen with three atoms instead of the normal two.  
The added atom turns the gas we breath into a poison, any

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1. Combating Global Warming : Study on a Global system of trade-  
able carbon emission entitlements. United Nations, New York,  
1992.

animal that inhaled more than a trace of it would die. Near the earth's surface, ozone is an increasingly pollutant, constituent of photo chemical smog and of the cock tail of pollutants popularly known as acid rain. But safely up in the stratosphere, 15 to 20 km. above the earth's surface, the blue pungent smelling gas is as important to life as oxygen itself. Ozone forms a fragile shield curiously insubstantial but remarkably effective. It is scattered so thinly through 35 km. deep stratosphere that if were collected together it would form a girdle around the earth no thicker than the sole of a shoe.<sup>1</sup> Yet this thinnest filter efficiently screens out almost all the harmful ultra violet rays of the sun.

But a worldwide diminishing by 3% and as much 50% in some ozone holes that appear every spring over Antarctica are clear indications that this shield is weakening. The situation is not only worsening, there is little hope of its being remedied in the immediate future. This is because, the disturbance in the ozone cycle is due to not any natural

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1. Erik Eckholm. Down To Earth: Environment and Human Needs. Affiliated East-West Press Pvt. Ltd., New Delhi, 1991.

process but is being caused by man-made chloro fluoro carbons (CFCs) and similar chemicals used as propellants, coolants, solvents and in the manufacturing of plastic foams. Capable of setting up almost self sustaining chain reactions in the upper layers of the atmosphere, these chemicals can continue depleting stratospheric ozone for years. Penetration of UV rays to lower layers of the atmosphere apart from inducing faster mutations, enhance genetic defects, cancer and blindness, it would play havoc for all forms of life and disturbed the oxygen cycle, damage crops and bring in unpredictable climatic change<sup>1</sup>.

The amount of ozone that prevails near the earth's surface is only a few percent of the amount in the stratosphere. But even a low concentration of a few parts per billion poses a health hazards<sup>2</sup>. Ironically, the depletion of ozone layer in the stratosphere could cause levels of the poisonous gas to rise just where it is not wanted. Studies suggest that increased ultra violet radiation would cause, more ozone to be formed near the earth's surface particular-----

1. Ibid; Page 115.

2. Ibid; p. 116.

ly near the centre of cities, where populations are most concentrated.<sup>1</sup>

For a half century, the chemicals that are doing most to damage the ozone layer were regarded as miracle substances, uniquely useful to both industry and consumers and harmless to human beings and the environment alike. CFCs (chloro fluoro carbons) is one of them. It is immensely stable, neither flammable nor poisonous, they neither react with other substances in the biosphere nor dissolve to pollute the rain. Not surprisingly, they became more and more widespread. Invented more or less by accident in 1928, they have been used as propellants in aerosol cans, providing the power behind a wide range of sprays.<sup>2</sup>

About 30% of world CFCs production is used in fridges, freezers and air conditioners, about 25% in spray cans, another 25% in blowing foams for various uses from buildings and cars to fast food containers and the remaining 20% for -----

1. B.L.Bose. Keeping ozone where it begins. The Telegraph, Calcutta, June 29, 1990.
2. Mahfazul Haque. Debate over Global Warming continues, The Bangladesh Observers, Dacca, 18 May 1990.

cleaning and other purposes.

In this way, every CFC molecule destroys thousands of molecules of ozone. Some halon related substances primarily used as fire extinguishers, are even more damaging, destroying ozone up to ten times as effectively as the most destructive CFCs. Concentration of halon, though very small, are doubling in the atmosphere about every five years. The most damaging CFCs are also increasing rapidly, concentrations of CFC 11 and CFC 12 (much the most wide spread) double every 17 years and concentrations of CFCs 113 every six years.

CFCs have now been shown to be primary cause of the most dramatic evidence yet found of ozone depletion. Every southern spring a 'hole' opens in the ozone layer over Antarctica as big as the United States and as deep as Mount Everest. No body knows what the consequences of the hole will be but intensive scientific research has established beyond doubt that CFCs are responsible for it.

Research also shows that since 1979 ozone has declined by some 5% over Antarctica throughout the year. Indeed,

there is increasing evidence that ozone layer thinning all over the world. The global data is much less conclusive than the findings from the southern continent but it seems that since 1970 the protective ozone layer has already shrunk by about 4% in winter and one percent in summer over the northern hemisphere from 64 to 30 degree north. This is about twice the depletion that computer models had predicted.<sup>1</sup>

Ozone pollution is thus no ordinary pollution. It plays a biological role. Its presence in sufficient amounts in the upper layers of atmosphere is beneficial to life but it's increasing concentration at lower levels poses a considerable health hazards and endangers food production.

### POPULATION EXPLOSION

Massive population growth makes the country more difficult to solve the loads of environmental problems because it outstrips these country's economic development, retards their social development and makes crushing demands on service resources and the bearing capacity of increasingly

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1. Wilfried Kreisel. Environmental Health in the 1990s. Bangladesh Observes, Dacca, 24 May 1990.

environmental renewal. In every country, the man made environmental problems are being generated faster than we can solve or prevent those problems. In every country, environmental wealth capacity is inadequate to meet human needs. Our progress to date has been unturned by population growth. The current global life style is not sustainable. This means that humans are consuming faster than the earth can replenish and dumping wastes faster than the earth can assimilate. A school of thought blames this totally on the growth of human population. The increased rate and quantity of consumption is argued to be directly proportionate to the increase in human numbers. However, this argument does not take into consideration the variations in the consumption pattern of individuals.<sup>1</sup>

All during man's relationship with nature, a most important factor determining the status of civilization on the time vector human history, has been the level of population growth with increasing strain on the nature's limited

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1.M.Buch, Population and Environment in edited book "The Inevitable Billion Plus" of Vasant Gowarikar, National Book Trust. New Delhi, 1994.

resources. So, there is always very possibility of resource crunches and the lack of sustainability of land. A trend has now arisen and developed in human activity that has a universal character but goes beyond the limit of the global scale. In fact, man has exploited and consumed nature for a long time. In most cases, he has carried the day against her but it was a Pyrrhic victory for which the victor's descendants are paying.

The increasing population pressure on one sector leads to migration of people to another sector. In this sense, there is large migration of rural people to urban city centres. The census of 1991 clearly proves that our family planning programmes have not succeeded. The pressure of population is mounting and the growth trends of the previous three decades have been repeated in this decade. When we take the growth trend of the last three decades into account what we have on our hands is a real population explosion and an extremely dangerous demographic situation.<sup>1</sup>

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1. Sekhar Singh. The Global Environmental Debate. The Indian Journal of Public Administration. July-September, Vol. xxxv, No. 3, 1989.

In 1901, there was just one city with population of more than one million in India. In 1991, number has grown to 23. In 1991, more than 65% of the entire urban population of India lived in class 1 cities i.e. those with a population of more than one lakh each<sup>1</sup>.

Fortunately in rural India, problems of urban and industrial pollution are still absent. Rural population pressures have an impact so far only on natural vegetation, the water regime and wildlife<sup>2</sup>. But when more to an urban environment, the situation becomes much more complex and dangerous. In 1951, Bhopal had a population of just over one lakh, in 1991, the population exceeded one million.<sup>3</sup>

The larger the population the more the demand on resources. Demography is not merely a question of numbers of people. When the bearing capacity of planet earth reaches the point of exhaustion, as it is doing in countries such as

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1. Ashok Mitra. Rising Population and Environmental Degradation, Yojana, 18 October 1989.

2. Ibid; p. 28-30.

3. S.K. Sharma. Politics of Pollution, The Patriot, New Delhi, 27 March 1990.

India, China and Indonesia, an environmental disasters dooms. People have to be fed, housed, employed, educated, cared for medically and provided recreation.<sup>1</sup> In the low per capita income countries where the size of population is large, the rate of development is very low. Man is a producer as well as consumer. If his number rises, national income must also grow. If only the numbers of people grow and the national income does not rise, per capita incomes fall down. Income is closely related to the standard of living. The question of poverty, unemployment, disparity, malnutrition and many other social ills are related to the imbalance between populations and means of subsistence.<sup>2</sup>

The growth rate of population in developing countries is still 3% or more per annum. Contrary to this, the population growth rate in developed countries is less than 1% per annum. In the ultimate analysis, the impoverisation of large sections of the world's population is the ultimate environmental degradation. Poverty itself is a result of excessive

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1. Ibid.

2. R.K. Pachauri. Lopsided Priorities, The Hindustan Times, New Delhi, 5 June 1990.

population. Whichever way one looks at the population-development relationship, it seems quite clear that sustainable development requires a curbing of population growth. Development is the best contraceptive.<sup>1</sup>

### CONCLUSION

The environmental crisis is far more serious and fundamental. It has been a major debate between developed and developing countries in the world. There is hardly any society or country today which is not involved in one way or another in this debate. From small, local, grassroot organization to national governments and global and international bodies, this debate is becoming the most strident of this century.

The global environmental debate is focussed on certain specific environmental problems that are facing humanity. Whereas earlier concerns were mainly for the sustainance of growth and the main culprit (the increase in population), the question of social and economic relations soon began to

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1. Ibid.

dominate in the international debate. The unjust control and consumption levels of the elite countries and of the elite classes within countries, began to be seen as the major cause of the environmental crisis.

A historically parallel strand of the global environmental debate was the anti-nuclear debate which foretold the sudden and macabre end of the world through a nuclear holocaust. Emerging from the horrors of Nagasaki and Hiroshima, this debate fuelled by the various radiation disasters in the nuclear plants, notably "THREE MILE ISLAND" and more recently, CHERNOBYL.

Unfortunately, the anti-nuclear and peace movements could not, at least, initially establish a realistic link with those fighting for social justice. Though there was sympathy and camaraderie all around, there was also a feeling among many social activists that their time and energy was better spent in fighting existing social injustices rather than future potential disasters.

Efforts to link up the two issues by arguing that the funds saved from the arms race could be well invested in poverty alleviation were impressive in their statistics.

However, these did not influence committed social activists who recognized that they were not fighting for more money but for more justice. So far as the environmental problems are concerned, there was no such conference on environment within the network of world forum till the end of 1960s. In the early seventies, there emerged a fresh concern for the future of the earth and for the first time, under the U.N. stewardship, the Stockholm Conference on Human Environment in June 1972 was convened. It is discussed in the second chapter.

**Chapter II**

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**The Stockholm Conference and India - 1972**

The growing consciousness of environmental problems has procured good endeavours on the part of developed and developing countries to initiate many international environmental conferences. In this way, the first systematic environmental conference was held in 1972 at Stockholm. The world wide explosion of environmental concern in the 1970s, gave a new face to the international environmental movement. This movement belongs to a larger transformation in human thought which may be likened to a second "Copernican revolution". The environmental movement is transitional between those perceptions and policies that have been widely prevalent in human affairs and those new beliefs and commitments that are exemplified by the reports, decelerations, laws, treaties and programmes.<sup>1</sup>

A structure of international environmental co-operation has been emerging and developing. Common purpose precedes common action and the broadening understanding of relationship of environment to economic and social issues

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1. N.R.Inamdar. "Environmentalism and Development". The Indian Journal of Public Administration, July-September, 1989. Vol. XXXV.

may lead to expanded perceptions of common interest. The environmental movement, becoming worldwide in incidence, is manifestation of a major historical changes of state or discontinuity. Eric Ashby has described the "so called environmental crisis of our time as a "climateric". Now, environmental crisis as more profoundly a "crisis of-will and rationality"- of intelligence and moral character". This crisis is not in the environment which ever changing, but in human behaviour as it affects the environment<sup>1</sup>.

## AN EMERGING GLOBAL ENVIRONMENTAL MOVEMENT

### THE ROAD TO STOCKHOLM

The international environmental movement that generated the Stockholm Conference has a long history and no sharp beginning. It has global proportion of historical development which contemporaries can not easily evaluate. It is an awakening of modern man to a new awareness of the human predicament on earth. Environmental issues are the result of an emergent change in the environment caused or influenced

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1. Ibid; page 358.

by human activity with consequences arousing social concern and creating problems leading to political action. Environmental issues interact with and interrelate with other seemingly mutually exclusive developments<sup>1</sup>.

During the course of the 20th century, a sufficient number of people became sufficiently concerned about the danger to man's common stake in biosphere to induce international action. This movement was spontaneous and diverse, converging into a truly global effort only in the years immediately preceding the Stockholm Conference. Progress along the road to Stockholm was neither straight forward nor evenly paced. At the beginning of the 20th century, neither environment as an integrative ecological concept nor the biosphere as the planetary life support system, was an object of public international concern. These efforts characteristically entailed exchanges of scientific information and co-operation in scientific exploration and research<sup>2</sup>. Significant steps in the development of international co-

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1. Lynton Keith Caldwell. International Environmental Policy : Emergence and Dimensions. Duke Press Policy Studies, Duke University Press.

2. Ibid; p.1.

operation were taken after world war II with establishment of the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 1945 and the International Union for Conservation of Nature and Natural Resources (IUCN) in 1948 and by the Biosphere Conference of 1948.

The United Nation Conference on the Human Environment in 1972 extended international consideration to the social, political and economic factors that influence man-environment relationship and so led to the establishment of international institution with special responsibility for these matters<sup>1</sup>.

Overt evidence of social concern and the first public recognition of the biosphere as an object of international policy, was a resolution adopted in November 1966 by the General Conference of UNESCO at its 14th session. Pursuant to this resolution, the inter governmental conference on the Resources of the Biosphere was convened in Paris, 4-13 September 1968. This gathering known as the Biosphere Conference, was recognized by UNESCO with assistance from the -----

1. Ibid; p. 15.

United Nations, the International Union for Conservation of Nature and Natural Resources (IUCN) and the International Biological Programme<sup>1</sup>.

Following Second World War, the convening of international conferences for various aspect of Nature Protection was resumed. During the first half of 20th century, governments hosted congresses in which they did not officially participate<sup>2</sup>. During the 1960s and 1970s, an international network of non-governmental organizations developed and began to effect a transition from traditional and narrowly limited conservation policies towards a comprehensive and open ended concern for quality of the environment<sup>3</sup>.

#### UN CONSERVATION CONFERENCE 1949

Origin of this conference goes back to Franklin D. Roosevelt, who felt that after the end of World War II, the

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1. Ibid; p. 16.

2. The World Environment:1972-1982, AnUNEP Report. (ed) Martin Holdgate, Tycooly International Publishing Limited, Dublin.

3. Ibid; p. 5.

United States should call such a conference. Official initiative for the conference came from Harry S. Truman who gave a letter to the United States' representatives on the Economic and Social Council (ECOSOC) of the United Nations. The idea was accepted by ECOSOC.

In this conference, unquestionably, it was recognized that the greatest factor of change is the explosive upsurge in population in virtually all countries resulting in a doubling of the world population within the last century or increase of more than thousand million people. The consequence that the drain upon the earth's resources, has increased not upon a mathematical scale related to population growth but upon a geometrical scale related to greater numbers of people demanding a greater variety of products from an infinitely more complex industrial system.

This conference was important for the exchange of views and the marshaling of information about man's use of the resources of the earth. But it failed to ask the questions that the growing stress of human demands upon the earth should have suggested or to bring under consideration not only the full urge of human needs and values, but the

basis for the welfare and the survival of the biosphere<sup>1</sup>.

### THE BIOSPHERE CONFERENCE    1968

A major advance in international environmental policy formation and a landmark in recognition of the relations of man to the natural world was the Intergovernmental Conference of Experts on the Scientific Basis for a Rational Use and Conservation of the Resources of Biosphere held in Paris in September 1968<sup>2</sup>.

More conveniently termed the "Biosphere Conference", it was sponsored by a number of international agencies under the leadership of UNESCO. The conference marked the arrival of the biosphere concept as an object of international policy deliberation. Within its context, the conference examined a broad spectrum of issues with an emphasis on ecological considerations. Unlike earlier conference, this one was not in context with the exchange of views and experience but rather adopted twenty recommendations for the  
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1. Ibid; p. 6.

2. Essem EI Hinnawi (ed), Global Environmental Issues, An UNEP Report, 1967.

future action by the participating governments, by the United Nations system, and especially by UNESCO. In the concluding paragraph of its final report, the conference summed up its assessment of man and environment relationship and their political implications.

The twenty years between the Resources (1949) and Biosphere (1968) Conference, it marks a fundamental change in perceptions of international responsibilities for the global environment as any that have occurred since the establishment of permanent international organizations<sup>1</sup>.

A process of conceptual change was occurring in the quarter century between the end of the World War II and the preparations, for the United Nations Stockholm Conference in 1972. Even though, the conceptual basis for international action did not yet appear adequate to needs and realities, events in the 1960s provided evidence of growing recognition that the intellectual and institutional capabilities of nations needed to be mobilized to arrest the worsening

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1. Essam EI Hinnawi & Asit K Biswas. (ed), Renewable Resources of Energy and the Environment. Volume No. 7.

condition of the biosphere. By 1972, several leading states had enacted new and significant environmental legislation or had recognized ministries and departments for environmental protection purposes. Environment became a major public issues in Canada, Japan, Sweden, the United Kingdom and the United States and in these countries, the issues was both domestic and International.<sup>1</sup>

#### PREPARATIONS FOR STOCKHOLM : OFFICIAL INITIATION

Official initiation on the conference began with a letter dated 20, May, 1968 from the permanent representative of Sweden to the Secretary General of the United Nations on the question of convening an international conference on the problems of human environment.

On 3 December 1968, the UN General Assembly took up agenda item "the problem of the human environment" and after generally supportive discussion, adopted draft resolution 2398 (XX III) without opposition, thereby setting in motion the preparatory efforts leading to the conference. In 1968,  
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1. Ibid.

the resolution declared that this effort is conceptual mile stone in the history of the relationship between man and his environment, making a worldwide recognition that there was need for "intensified action" at the national, regional and international level in order to limit and to eliminate the impairment of the human environment and to protect and to improve the natural surroundings in the interest of man.<sup>1</sup>

The Secretary General prepared the report concerning the nature, scope and progress of work being done in the field of the human environment, the principal environmental problems facing developing and developed countries, the time and methods necessary to prepare for the conference, a possible date and place for its convening and finally the range of financial implications for the United Nations. The Secretary General also reported the invitation of the Government of Sweden to host the conference in Stockholm in June 1972. In 1969, a Preparatory Committee (PREPCOM) was established whose work would be essential to the success of



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1. Mostafa K. Tolba. Development Without Destruction: An Evolving Environmental Perception. Vol. 12, Tycooly International Publishing Ltd., Dublin, 1982.

Stockholm Conference.<sup>1</sup>

### ESTABLISHMENT OF PREPARATORY COMMITTEE (PREPCOM)

The twenty seven nation Preparatory Committee was too large actually to organize the conference. The first session of the PREPCOM was held at United Nations' Headquarter in New York 10-20 March, 1970. The main task to assist the Secretary General to select the topics, formulation of ideas, suggestions and proposals. The discussion revealed substaintial consensus on the characteristics and seriousness of environmental problem but complex diversity in the ways in which these problems had arisen in various countries was seen as complicating the protective task.

Then, in the second session meeting in Geneva 8-19 February 1971, the PREPCOM considered a proposed agenda for the conference. PREPCOM sponsored a study on environment and development. In Founex, Switzerland, in 1971 June, it concluded that the kind of environmental problems that are of importance in developing countries, are those that can be

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1. Ibid; p. 114.

overcome by the process of development itself. This meeting helped to alleviate some of the misgivings concerning their developmental aspirations.<sup>1</sup>

Certainly, with respect to the state of the earth and man's environmental relationship, the years 1968 to 1972 witnessed a worldwide raising of consciousness for which there appears to have been no precedent. But one early result of massively increased awareness of threats to the world environment was a corresponding increase in mass dissatisfaction in many countries with the ways in which technology was being applied. This dissatisfaction was most apparent among the better educated upper middle class in the developed countries.

The PREPCOM held its third session in New York in September 1971 with the draft declaration on the human environment being a major item on the agenda. Pre conference approval of the declaration was accomplished at the fourth session of the PREPCOM 6-10 March 1972 at which final ar-

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1. Lyton K. Caldwell. "International Environmental Policy" : Emergence and Dimension. Affiliated East and West Private Ltd., New Delhi, 1992.

rangements for the conference were satisfied.

UNITED NATIONS CONFERENCE ON THE HUMAN ENVIRONMENT    1972

On 5 June 1972, after more than two years of extensive preparation, the United Nations Conference on the Human Environment opened its first plenary session at the Royal Opera House in Stockholm, the national capital territory of Sweden. It marked the combination of efforts to place the protection of the biosphere on the official agenda of international policy and law. Specific aspects of the environment has been the objects of international negotiation and arrangement but the concept of collective responsibility of nations for the quality and protection of the earth as a whole, did not gain political recognition until the years immediately preceding the Stockholm Conference. Stockholm enlarged and facilitated the "means" towards international issues by restrictive concept of national sovereignty and international interest. In effect nation states joined together their sovereignty and jurisdiction to resolve collectively issues that previously would have been definable only within the limits of particular national jurisdic-

tions.

### ISSUES

The issues in Stockholm Conference were also immediately confronted by the division. There were two conflicting viewpoints present. From the perspective of the developed countries, the primary concern of the conference was the human impact on the bio physical environment with emphasis on control of pollution and conservation of resources. From the developing countries' perspective, the second point held that social and economic development.<sup>1</sup>

In addressing the conference, OLAF PALME, Prime Minister of Sweden declared that his government attached the greatest importance to the stress laid in the declaration upon the need for development. He found it as an inescapable fact that each individual in the industrialized countries draws on the average, thirty times more heavily on the limited resources of the earth than his fellow man in the

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1. Ibid; p. 56.

developing countries. He, himself, concluded that these simple facts inevitably raise question of equality, of more equal distribution between countries and within countries. Palme's highly selective examples of ecological and economic exploitation by the industrialized countries, particularly by the United States, set the tone of much of debate in the plenary sessions of the conference<sup>1</sup>.

### INDIA'S GROWING ENVIRONMENTAL CONCERNS

Before going into the details of views of Northern and Southern countries, generally, and India, in particular, I have discussed briefly the environmental movement and environmental debate in India and how it is related to the global debate on environment. Respect for all life is the part of Indian philosophies from as far back as there is recorded history. Hinduism, Buddhism and Jainism all preached non-violence and reverence for living creatures. The much quoted Ashokan edicts were an exemplification of this philosophy. Despite this, in the first half of the 20th

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1. Nancy K. Hetzel. Environmental co-operation Among Industrialized Countries, University Press of America, Washington D.C., page 61-70.

century, much of the environmental debate in India followed the trend set by the colonial masters. The environmental movement in early first half of the century was weak. Though its antecedents are to be traced to its counterpart in the West and developed countries elsewhere, like Japan, it came up in the seventies and has assumed recognizable proportions during eighties.

It was only in the late seventies that environmental issues began to be seen as central to the struggle for social justice. Around the same time, movements like the Chipko movement, and other struggles for access to and control over forest, and other natural resources were beginning to be recognized as constituents of the true environmental struggle in India. The rise of environmentalism in the country has been slow and belated. The movement has been localized, sporadic, transient and weak<sup>1</sup>.

The beginning of the 80s saw the redefining of the environmental debate, at least, in India and issues of

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1. Sekhar Singh. The Global Environmental Debate . I.J.P.A. July-September 1989, Volume No. XXXV. No.3, page 362.

social justice as reflected in the inequitable distribution of natural resources and preferential access to them, emerged as a major issue. The awakening in the United Nations to the urgency of environmental protection and the insertion of a constitutional provision of a Directive Principle of State Policy regarding the protection and improvement of the environment and the safeguarding of the forests and wildlife of the country (Article 48A) more or less coincided.

The early 80s, also saw of influential urban based NGOs like the Environmental Service Group, the Centre For Science and Environment, the Kerala Shashtra Sahitya Parisad, and Kalpvriksh, are few names traditionally, wildlife oriented organizations like the Bombay Natural History Society and the World Wildlife Fund. India, started coming under pressure from their members and from the society at large to reorient their thinking and begin participating in the wider environmental debate in world forum internationally.<sup>1</sup>

Development and environment are not opposed to each

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1. Ibid; page 363.

other, they are complementary to each other. Given the logic of the Indian debate, it was only a matter of time before the concerns, as defined and enunciated in India, also began to be voiced internationally.<sup>1</sup>

#### NORTH-SOUTH DIVIDE

For the first time, the Stockholm Conference showed that environmental issues have resulted in environmental conflict. The so called North-South tension, among the developed and developing nations came up in the course of justification of their views and responses to the environmental problems. But in real term, it was accepted that the nature of environmental problems are different in the developed and underdeveloped or developing or Third World nations. In developed countries, these problems emerged due to the advancement of scientific and technological development and affluence of resources, where as the environmental problems of developing countries are in large measure those that have arisen from the lack of development and persist-

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1. UN Conference on Human Environment. Information Letter. 30 June 1972, No.1.

ence of poverty. They are problems of both rural and urban poverty. In both the countryside and towns, not merely the quality of life but life itself is endangered by poor water, housing, sanitation and nutrition and by sickness, diseases and by natural disasters<sup>1</sup>.

It is also true that problems arising out of the process of development are also evident in these developing countries. Indeed, as the process of development gets under way, the latter type of problem is likely to assume increasing importance (as India is facing now a days). The process of agricultural transformation, for example, involves the construction of reservoirs and irrigation system clearing of forests, use of fertilizers and pesticides etc. Certainly, these process have environmental implications<sup>2</sup>. The government of developing nations were also helpless in stemming the pressures of the multinationals and supporting international financial agencies due to their precarious economies dependent on the palliative remedies devised by these helpers.

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1. Lyton K. Caldwell. Page 63.

2. N. R. Inamdar. I.J.P.A. July-September, 1989, p.357.

In the second place, the outlooks of the developed and developing countries towards environmentalism differed. While the environmentalists in the West had fixed their sights on the objectives of upholding and promoting the quality of life, the governments and the vast majorities of people in the developing countries preferred the subsistence of the masses of poor people to the promotion of the quality of life of a few.

Thirdly, the goals of environmentalism would vary among different groups of the people professing adherence there to. Barring these differentials, the world community hopes that there are certain common environmental or ecological concerns that need urgent, earnest attention and action on the part of the developing countries. In this matter, unlike in the matters of international peace and economic development of underdeveloped countries in general, the governmental and public opinion in the developing countries is led by international thinking spearheaded by advanced thinking in the West<sup>1</sup>.

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1. Ibid; Page 358.

In Stockholm Conference, the Third World statements reiterated the thesis that the foremost environmental problems of the World was Third World poverty caused almost wholly by the exploitative practices of the developed countries. The developing nations differed from the industrial states with respect to priorities<sup>1</sup>.

It is not surprising, therefore, that representatives of the developed, industrialized countries approached the Stockholm Conference with environmental pollution problems, weighing heavily on their minds and with the need for worldwide conservation programmes to safeguard the planet's genetic and natural resources.<sup>2</sup> But the developing countries approached that in their countries, energy and resource consumption was not high and their industrial pollution problems were localized, if present at all. But with them, poverty was rife, expectation of life is poor.<sup>3</sup>

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1. Hans H. Landsberg. "Can Stockholm succeed". Science 176, 19 May, 1972.

2. Ibid; p. 36.

3. Ibid; p. 38.

Environmental concern was, therefore, often dismissed as the business of the rich countries which caused most of the pollution and moreover had the wealth to cure it. Indeed, arguments by developed nations were presented to show that environmental concerns could well retard development efforts in the Third World. Another link was forged by the recognition that many problems confronting developing countries had been encountered by developed countries whose mistake could be avoided. Resource deterioration, lack of sanitation, affecting poor people throughout the world and generally resulting from underdevelopment, were seen to be as much as environmental problems as those caused by industrial pollution. At Founex and Stockholm, the phrase the "pollution of poverty" came into use to describe the worst of all the world's environmental problems and it was recognized that the skill of all nations were needed to tackle it<sup>1</sup>.

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1. David E. Luchins, *The United Nations Conference on the Human Environment : Emerging Political Alignment*. University Microfilms International, 1980.

## THE STOCKHOLM AND INDIA

India is the most leading country among the Third World Nations. It had its own way of understanding to environmental problems which is supported by other developing countries in the environmental conferences. Indira Gandhi, the late Prime Minister of India while addressing the plenary session of the Conference, said that poverty is the greatest polluter. She declared that many of the advanced countries of today have reached their present affluence by their domination over other races and countries, the exploitation of their own masses and own natural resources. They got a head start through sheer ruthlessness, undisturbed by feelings of compassion or by abstract theories of freedom, equality or justice. A past age of domination has left in many countries of the so-called Third World, stunted and malformed economies perpetuating to this day the poverty of blighted, stagnant and benighted rural communities<sup>1</sup>. Mrs. Gandhi's views were widely shared among the Third World representatives and expressed most violently by the Maoist

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1. Shekhar Singh. The Global Environmental Debate. Special Journal of I.I.P.A., July-September, 1989, Volume No. XXXV, No.3. 1989.

spokesman of the People's Republic of China. Mrs. Indira Gandhi said that "on the one hand, the rich look askance at our continuing poverty, on the other, they warn us against their own methods. We don't wish to impoverish the environment any further and yet we can not for a moment, forget the grim poverty of large numbers of people. Are not poverty and needs the greatest polluters?"<sup>1</sup>.

She reiterated that for us who live in underdeveloped countries are grappling with age old problems of poverty, the conservation of the environment can not be at the cost of development. War at one end and poverty at the other, are the worst of all polluters of the human condition. We need balanced development and peace to rescue civilization out of this predicament. The ecology movement must proceed hand in hand with the movement for peace and fight against economic backwardness.<sup>2</sup> The rich out of greed and the poor out of need have been reckless in plundering earth's assets. There is now a deep anxiety about the rapid diminishing of

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1. Ibid; Page 365.

2. Ibid; Page 366.

what have become essentials to our way of living, indeed even to life. While vast numbers in the developing countries are in desperate need of basic necessities, the affluent countries are using up far more than their share of the world resources, spending much money, material and talent in churning out luxuries thus incalculating wasteful habits although it is now known that resources are limited. Highly wasteful life styles of a few countries and individuals are depriving the many of even basic necessities. Consumption of a few is making it difficult to sustain even the minimal subsistence of the many<sup>1</sup>.

"Poverty and economic backwardness are themselves constraints to growth. For rapid progress, we need more sophisticated technology but when any such change is contemplated, it is bound to disturb some workers and temporarily displace industrial labour, although I am assured by people in the industrialized countries that such changes are the only way to provide greater employment in the long run. We must ensure a continuous programme of training so that the hard-

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1. C.V. Rajashekhara. (ed) Global Environmental Series : Environmental Administration and Pollution Control. Discovery Publishing House, New Delhi, Volume. II, Page 53.

ship is minimized in terms of time and earning" she said<sup>1</sup>.

She again said that our people, be they literate or illiterate, have demonstrated their willingness to accept new technology if they are convinced about its economic soundness and social benefit. A crucial factor in technological development is energy. Other countries are experimenting in a big way in the uses of renewable resources<sup>2</sup>. Mrs. Gandhi said that the success or failure of any technological innovation depends on economic considerations. The main reason for the gap between knowledge gathered in our laboratories and their application by industry, is inadequate interaction between technologists and economists. So, there is need of closer collaboration between scientists and social scientists<sup>3</sup>.

"Eco development", a word coined to describe this process of ecologically sound development, a process of positive management of an environment for human benefit  
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1. Ibid; Page. 54-57.

2. Ibid; Page 56-62.

3 Ibid; Page 63.

emerged as a central theme from Stockholm. These redefined concepts made the Stockholm Conference more attractive to developing countries<sup>1</sup>. In Stockholm Conference, Mrs. Indira Gandhi strongly voiced that India has always applauded the United Nations' endeavour to bring the world together for peace and prosperity. We affirm our appreciation of its efforts and commend its accomplishments. We, humans, have not regarded earth not just as a play ground but as a place to use, despoil and to destroy. We are too engrossed with the immediate, too absorbed with petty individual problems, to look at basic issues. Today's problem has taken countries to grow into its present threatening proportions.<sup>2</sup>

A realistic understanding of our complex social and economic conditions and our broader vision of the world community have enabled us to shield our development from the consequences of rapid and unidimensional industrialization. We emphasise our committment modestly to the rational use of

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1. Martin W. Holdgate. The World Environment: 1972-82, UNEP Report, Tycooly International Publiahing Ltd., Dublin.

2. P. Leelakrishnan. Environment and the Law. Special Number of I.J.P.A., Vol-XXXV, No.3, July-September 1989, p. 399.

energy and natural resources with the ultimate objective of preserving our development.<sup>1</sup> The developing countries use a mere fraction of the total energy consumed by industrialized countries. As their standards of living rise, they will demand much more resources contributing to the already serious depletion. She argued that if the developing countries do not get the energy they need and deserve, how can they fight poverty. At the same time, the financial constraints deny them the investment necessary to harness energy through known technologies.

She said that developed economies should be prepared to accept some of the responsibilities for redefining their relationship with the developing world. The new international economic order and recognition of the common heritage of mankind, need to be endorsed in theory and in practice. Every international forum should aim at changing attitude so that we move from exploitation and bargaining to co-operation and accommodation. We expect the international community to support and reinforce this effort, especially in the developing countries. But developing countries must

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1. Ibid; p. 401.

strengthen their collective self reliance. Technical co-operation, the sharing of training facilities, the exchange of experts and information, joint research and development programmes and related measures, are ways to make self-reliance a reality<sup>1</sup>.

At last, she said that mutual recrimination and confrontation do not help. We are all, the developed, the developing and underdeveloped, in the same predicament. The United Nations has brought us here in the hope of enlarging the awareness of humanity and human impact on the environment. This Stockholm Conference, therefore, must not only draw attention to our global obligations, it must outline a world policy on environment. It must generate momentum and indicate course of action. We should initiate and expand programmes for technical assistance in environmental planning and management for a better earth<sup>2</sup>.

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1. Ibid; p. 402.

2. Ibid; p. 403.

## ASSESSMENT OF ACHIEVEMENT

The formal output of the Conference are consisted of the declaration on the human environment, the declaration of principles, recommendations for action and the resolution on institutional and financial arrangements. In relation to what might reasonably have been hoped, Stockholm may be accounted a success. It avoided foundering an antagonism born of Third World resentment over First World injustice. The price of this avoidance was incorporation of environmental protection into the Third World's development priorities.

The "development" concept was thus enlarged and the delegates were exposed to the evidence that many social and economic problems have environmental connections. In retrospect, the primary accomplishment of the Stockholm Conference was the identification and legitimation of the "biosphere" as an object of national and international policy. Its resolutions provided the standard for environ-

ment related act of government<sup>1</sup>.

The preamble to the Declaration on the Human Environment stated that there is the need for a "common outlook" and for "common principles" to inspire and guide the people of the world in the preservation and enhancement of the human environment. An issue with more solid implications for possible changes in international responsibilities was the extent to which the developed or rich nations were obliged to assist the developing or poor nations in reconciling their development efforts with environmental quality objectives<sup>2</sup>.

The Conference passed resolution establishing institutional arrangements for implementing the UN environment programmes and setting up an Environment Fund. A "Governing Council" was arranged to oversee the implementation of the action plan. It was largely a coordinating body among exist-

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1. What happened at Stockholm. Special Report, Science and Pacific Affairs, 28 September 1972, p. 34.

2. R. B. Jain and Kanchan Sharma. Implementation Machinery for Environmental Protection in India. Special Number of Environment and Administration, I.J.P.A., Vol. XXXV, No.3, July-September 1989.

ing United Nations Organization to promote international co-operation in the environmental field. It has to recommend the policies to this end and to provide general policy guidance for this direction. Originally, the Governing Council was composed of 54 members but at the insistence of the developing nations, the size was expanded to 58, the additional seats to accommodate greater representation from Asia<sup>1</sup>.

The principal accomplishment of the Stockholm Conference were two fold : the "official recognition" of the environment as the subject of general international concern and the "institutionalization" of that concept in the United Nations Environment Programme (UNEP). Through the resolution 2997, the UN General Assembly established UNEP. The policies of UNEP are set by the Governing Council. From the viewpoint of some observers in developed countries, UNEP appears to be one more forum for the voicing of frustrations of the ex-colonial states and yet another channel for development assistance. The politics of UNEP has been some what eased as  
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1. V.Rajashekhara. (ed) Global Environmental Series : A Critical Issues in Environmental management. Discovery Publishing House, Vol. V, New Delhi.

the developed countries have sought their international environmental objective through other organizations such as NATO, OECD and the European Community, leaving UNEP to concern itself largely with environmental problems of the Third World or those that require a North-South dialogue. At this level, also the antagonism were seen. The developing countries were able to change the location of UNEP from what had been believed to be its probable site in Geneva to Nairobi, Kenya. This move was seen as a clear indication of the control that the developing nations proposed to exact on UNEP affairs<sup>1</sup>.

Also, the question of sovereignty was problematic in Stockholm to the organizational issues. Although, the Stockholm Declaration of Principles speaks of sovereign rights of States to exploit their own resources, the total effect of the document is to modify the exercise of sovereignty. The Secretary General of Stockholm Conference has interpreted the use of sovereignty in a positive and innovative manner. He said that the development of new international machinery

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1. Louis Jhon. The Stockholm Declaration in Human Environment. Haward International Law Journal, summer, 1973.

to deal with the complex problems of an increasingly interdependent technological civilization will not come about through the surrender of sovereignty by national governments but only by the purposeful exercise of that sovereignty<sup>1</sup>.

In whole, the predicted confrontation of Stockholm between developed and developing nations over the impact of environmental protection on development was effectively contained. This again was largely due to political skill of Secretary General, Maurice F. Strong who had formerly headed the international development programmes of the Government of Canada.

#### CONCLUSION :

Because the environmental concern was strongest among the more developed nations, suspicions arose among Third World -or- less developed countries that the movement concealed a neo-imperialist scheme to retard their economic growth and to keep them as "subservient supplier" of under-

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1. Tim E.J. Campbell. The Political Meaning of Stockholm, Stanford Journal of International Studies, Spring 8, 1973.

priced raw-materials and consumers of the industrial output of North America, Western Europe and other developed nations. Rhetoric of resentment among Third World nations co-existed with conspicuous and too often uncritical emulation of the industrialized First World<sup>1</sup>.

Rhetoric flourished at Stockholm, but the United Nations Conference on the Human Environment differed from other United Nations conferences in its initiation of a sequence of positive measures that have translated the published resolutions into the actual accomplishments. There are "four" factors which, at least, in degree, made this Conference different from the others. Firstly, from the very outset, Stockholm Conference was action-oriented. Secondly, the preparation for the Conference was extensive and thorough. Respective parties understood their differences and were able to find compromises that avoided disruption of the Conference. Thirdly, there were lots of popular interest and support. The presence of representatives of NGOs became very common at all United Nation conferences, but the num-

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1. Murice F. Strong. One year after Stockholm : An Ecological Approach to Management, Foreign Affairs, July 1973.

ber, variety and attendance at Stockholm was exceptional. A great variety of unofficial gatherings took place co-terminus with the conferences. The unofficial assembly of ecologically concerned youths, radicals, scientists and conservationists from around the world was more than factiously described as "Woodstockholm" - a ritual celebration of an emotional commitment to a new orientation towards life and the earth<sup>1</sup>.

However, the United Nations Conference on the Human Environment which met in Stockholm in 1972, June 5 to 16, marked a watershed in international relations. It legitimized environmental policy as an universal concern among nations, and so created a place for environmental issues on many national agendas where they had been previously unrecognized. In comparison with other UN conferences, the tangible result of Stockholm have been substantial<sup>2</sup>.

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1. Vanya Walker Leigh, On from Stockholm, The World today, Dec. 1973.

2. Erik, P. Eckholm. Down to Earth : Environment and Human Needs. Affiliated East and West Press Pvt. Limited, New Delhi, 1991.

Yet, the growth of international environmental co-operation during the 1970s and thereafter, is an aspect of a larger social transition. It is an expression of a changing view of mankind's relationship to the earth. Social scientists have called this view of human life on earth the "new environmental paradigm" evidence of its reality are found in opinion analysis and other indicators of attitudes from many parts of the world<sup>1</sup>.

The Stockholm Conference questioned the validity of traditional policies but the legitimacy of the new assumptions could not be fully accepted.

The second major breakthrough in environmental issues, in general, and the Ozone layer protection, in particular, was the Montreal Protocol, 1987. It is comprehensively discussed in the Third Chapter followed by the London Declaration, 1990 in the same chapter.

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1. Ibid;

**Chapter III**

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**Montreal Protocol and India - 1987**  
**London Declaration and India - 1990**

The first in a series of major United Nations conferences held in the 1970s, Stockholm was imbued with unique enthusiasms and hope. In course of time, representatives of both developed and developing nations tried to make more vigorous the global environmental movements and initiatives. Stockholm followed a numbers of conferences covering different aspects. "CONSERVE OR PERISH" has become the slogan of mankind all over the world after United Nation's Conference on Environment in Stockholm in 1972. Under the dynamic leadership of Mostafa Tolba, UNEP was active from the beginning, in trying to sensitise governments and world public opinion about the danger to the Ozone layer. UNEP made ozone protection a top priority in its programme. Indeed, the issue was covered in the preparations for the Stockholm conference in 1972 which led to the establishment of UNEP<sup>1</sup>.

In June 1973, the Executive Director of UNEP, Mostafa Tolba's address to the first session of UNEP's Governing Council cited damage to the ozone layer as possible outer

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1. Ricard E. Benedick. Ozone Diplomacy : New Direction in Safeguarding the planet. Haward University Press, Massachusetts, 1991.

limit which humanity would be wise to respect. The question of ozone layer protection got a world wide recognition in Montreal Protocol on Substances that Deplete the Ozone Layer in September 1987. During that time, this news made headlines around the world. However, the story of Montreal Protocol demonstrates convincingly that negotiating success is still depended on the imagination and skills of professional diplomats. The history of the ozone layer issues in general and of the Montreal Protocol in particular is also a case study of the diplomatic craft. The treaty was unique in the annals of international diplomacy. Those who present at the signing, shared a sense that this was not just the conclusion of another important negotiation but rather a historic occasion. It was hailed as "the most significant international environmental agreement in history" "a monumental achievement" and "unparalleled as a global effort"<sup>1</sup>.

The Montreal Protocol on Substances that Deplete Ozone Layer mandated significant reduction in the use of several extremely useful chemicals. At the time of the treaty's

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1. Action On Ozone. The Indian Journal of Public Administration, 1989, Vol.xxxv. No.3, July-September 1989, p. 692.

negotiation, chloro fluoro carbons (CFCs) and halons were rapidly proliferating compounds with wide applications in thousands of products, including refrigeration, air conditioning, aerosol sprays, electronics and fire fighting. Scientists, however, suspected that as these substances were released into the atmosphere and diffused to its upper reaches, they might cause future damage to a remote gas - the stratospheric ozone layer, that shields life on earth from potentially disastrous levels of ultraviolet radiation. Indeed, the Montreal Protocol added a new dimension to the 1972 Declaration of the United Nations Conference on the Human Environment at Stockholm which appealed to nations to ensure that activities within their jurisdiction of control do not cause damage to the environment of other states - a responsibility that had been more often an ideal than a reality<sup>1</sup>.

#### GROUNDS FOR MONTREAL PROTOCOL

The Montreal Protocol was a response to a new type of problem facing the modern world. The drafting of the Mont-

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1. Richard E. Benedick. op.cit., pp.1-2.

real Protocol was only the first of a series of international events in the late 1980s that brought together national leaders to consider these global threats. The Montreal Protocol thus became a prototype for an evolving new form of international co-operation. The Montreal Protocol became a "flexible and dynamic instrument" and a "blueprint" for the institutional apparatus to control greenhouse gases and adaptation to climate change. It is believed that the Antarctic revelation was the "driving force" behind the Montreal Protocol. Other observers have also described the success at Montreal Protocol to the "dread factor" of Antarctica<sup>1</sup>.

#### Foundation For Action

UNEP (United Nations Environment Programme) was laying the foundations for international action on ozone. In April 1975, the third meeting of its "Governing Council" backed a programme proposed by the Executive Director on risks of the ozone layer. UNEP's programme also called for "an examination of the need and justification for recommending any  
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1. Ibid; p. 3.

national and international controls over the release of man-made chemicals.

In May 1977, the United States hosted an intergovernmental meeting at which the question of international control over CFCs was formally raised for the first time. Canada, Norway and Sweden later brought the issues of banning CFCs use. In December 1978, the West Germany government hosted an informal meeting at Munich to reconsider this initiatives.<sup>1</sup> And in 1980, the EEC agreed not to increase its capacity to produce CFC 11 and 12 and called for a 30% cut in their use in spray cans by 1982. The UNEP Governing Council approved a non-binding resolution in April 1980 suggesting that CFCs use be reduced but avoided setting any quantitative targets. In May 1981, the Governing Council finally responded to Mostafa Tolba's urging and authorized UNEP to begin work towards a international agreement on protecting the ozone layer.<sup>2</sup>

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1. Ibid; pp. 41-42.

2. Action on Ozone. op.cit., p. 694.

## Need For Urgency

However, the sense of urgency for new regulatory action had diminished considerably. Most governments conceived of such a framework convention as covering only agreements on co-operative research and data collection, without actually imposing international controls. Changed understanding of the stratospheric chemical reactions, together with refinements in computer modelling, had led many observers to believe that the original ozone depletion hypotheses might have been overstated. In addition, as a result of a worldwide economic slowdown and the drop in the U.S. aerosol spray market, total CFCs production had declined. The issue lost much of its momentum, previously concerned bodies lost interest. Notwithstanding these developments, Mostafa Tolba persisted in his mission.<sup>1</sup>

At this point, the European Community made it clear that it was not even prepared to negotiate on any form of reduction of CFCs production or use. By late 1984, however,

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1. Rummel I. Bulska. "Recent Development relating to Vienna conference for the protection of the Ozone layer". Association of Attender and Alumni (AAA) year Book, Vol.54/55/56, 1986, Dordrecht.

the EC adopted a new tactic. It proposed an alternative Draft Protocol Text that would permit any additions to CFCs production capacity.<sup>1</sup>

### The Vienna Convention

In March 1985, representatives of 43 nations, including 16 developing nations convened in Vienna to complete work on the ozone convention. The convention for the protection of the ozone layer appears unexceptionable. Nations agreed to take appropriate measures, to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify the ozone layer.<sup>2</sup>

The Vienna Convention was itself a considerable accomplishment. It represented the first effort to the international community formally to deal with an environmental danger before it erupted. The Convention created a "general obligation" for nations to take "appropriate measures" to

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1. Ibid; p. 356.

2. Ibid; p. 354.

protect the ozone layer (although it made no effort to define such measures). It also established a mechanism for international co-operation in research monitoring and exchange of data on the state of the stratospheric ozone layer and on emissions and concentrations of CFCs and other relevant chemicals. These provisions were significant because, before Vienna, the Soviet Union and some other countries had declined to provide data on CFC production. Most important, the Vienna Convention established the framework for a future to control ozone modifying substances<sup>1</sup>.

Symbolizing the reluctance of many participating governments at this stage, however, was the fact that nowhere did the Vienna Convention significantly identify any chemical as an ozone depleting substance. Twenty nations signed it in Vienna but most did not rush to ratify it. India was not a party to it. The resolution authorized UNEP to reopen diplomatic negotiations with a 1987 (Montreal) target for arriving at a legally binding control protocol. In effect, having failed to agree on how to manage the risks and being

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1. U.S. Department of State. Protecting the Ozone Layer. Public Information Series, Washington D.C., 1985.

well aware of mutual suspicions about the commercial implications of any international control, the contending parties agreed to step back and together reassess the whole situation<sup>1</sup>.

UNEP, then, took a calculated risk by pressing ahead for with three negotiating conferences in rapid succession. The negotiators met in December 1986, February and April 1987 leaving only enough time between them to prepare the conference documents. In 1986, UNEP invited all UN member governments to name both public and private sector experts to attend these workshops. Although financial assistance was offered to encourage participation by developing countries, there was a general lack of interest. India and China were among the few represented this time<sup>2</sup>.

The first two conferences could not agree either on which chemicals were to be regulated, or how strict the control should be. Some negotiators, such as United States wanted a wide range of CFCs and halon to be eliminated

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1. Ibid; pp. 142-43.

2. UNEP. "Vienna Convention for the Protection of Ozone Layer", Final Act, Annex I, (Nairobi, 1985), p. 29.

almost entirely. Other, such as the European Community, argued that there should be merely a freeze at existing level on production of the two commonest CFCs, CFC 11 and CFC 12, atleast initially. However, consensus could not be reached and the meeting ended with a compromise statement that future CFC production might grow anywhere from 0 to 5 % annually.

UNEP was certain that, though there were differences between the models, these were apparent rather than real and reflected different assumptions. It put this to the text, asking five modelling groups from different countries all to use the same data, the best that UNEP could assemble. Then, it arranged for them to meet to discuss result in Glurzberg, West Germany in early April 1987. As expected, when given the same inputs, the models produced similar results. This scientists' conference reported that unless very strong regulations covering a full range of CFCs and halon were adopted, the protocol would be ineffective. This was a "Turning Point"<sup>1</sup>.

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1. Action on Ozone. op.cit., p. 696.

At the sametime, public concern about the Antarctica ozone hole was finally growing strongly in some of the more countries and pressure was mounting on their governments to take action. The deadlock broke. A further meeting in July 1987, personally chaired by Dr Mostafa K. Tolba, cleared away more major obstacles and agreement on a protocol at last seemed likely.

#### THE MONTREAL PROTOCOL

The conference of plenipotentiaries on the protocol on chloro fluoro carbons to the Vienna Convention for the protection of the ozone layer convened by the Executive Director of the United Nations Environment Programme (UNEP) met at the Headquarters of the International Civil Aviation Organization, Montreal, Canada, with the kind support of the Government of Canada, from 14 to 16 September 1987<sup>1</sup>. India did not participate actively in the conference. It attended as an observer at the conference. The absence of any developing nation symbolized the South's lack of interest in

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1. UNEP. Montreal Protocol on Substances that Deplete the Ozone Layer, Final Act, Nairobi, 1987.

details of the control measures. Tolba, himself, in effect, served as representative of the developing world. He assumed a central role in the protocol negotiations, exerting his personal influence and his considerable authority as scientist and head of UN organization. Only 24 nations signed this landmark protocol, taking a large step towards solution of the global environmental problems posed by the depletion of atmospheric ozone. Vital issues came to prominence at the last minute. The importance of this protocol is two fold:<sup>1</sup>

It serves to reduce the production of pollutants responsible for atmospheric ozone destruction and it presents a milestone in the field of international environmental cooperation. It is the first time, the international community has banded together to eliminate an environmental threat before serious damage has occurred. As such, the Protocol might help set a precedent for solving other environmental challenges faced by global community.

The Protocol finally agreed in Montreal proved to be far tougher than any one had imagined. It regulates a wide

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1. Cynthia Pollock Shea. Protecting Life on Earth : Steps to save the Ozone Layer. Worldwatch Institute, Washington D.C., 1988.

range of substances, five CFCs and three halons. It specifies heavy cuts in the consumption of the CFCs and it provides tough trade sanctions against countries that do not join the treaty. The nations signed the Montreal Protocol in 1987 stipulating a 50 percent reduction in CFCs by 1998<sup>1</sup>.

The controls are based on 1986 levels of production and consumption of two groups of ozone depleting chemicals as calculated according to a formula in Article 3. Article 2 of the Protocol limits production and consumption of the controlled chemicals to 80% of 1986 levels for a five year period beginning on July 1, 1993 and further imposes a limit of 50% of 1986 levels as July 1, 1998<sup>2</sup>. Indeed, it sets the "elimination" of ozone depleting substances as the "final objective". The Protocol came into force on January 1, 1989 when 29 countries and the EEC representing approximately 82% of world consumption had ratified it.

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1. Richard E. Benedick. *op.cit.*, p. 80.

2. Bruce. Man's Impact on Earth's Atmosphere in I.J. Titu's "Effect of Changes in Stratospheric Ozone and Global Climate". New York Anchor Books, 1987, pp. 35-40.

The Protocol also binds countries to make similar cuts in the production of the chemicals, but gives them some what more latitude over consumption levels. Production levels have to be frozen and cut in parallel with consumption. No latitude is granted to any country which delays joining the Treaty<sup>1</sup>.

#### NORTH-SOUTH DIVIDE IN MONTREAL

Developing nations, who had attended the early stages of the negotiations in force, were anxious that the agreement should not impede their development. As a whole, they consume only 16% of the world's CFCs and India and China, with one third of the world's population, use only two percent between them. Developing countries naturally want to develop such technologies as refrigeration and the protocol had to reflect this.

Since CFC technology is relatively easy to obtain and install, developing countries represented a large potential source of future CFC emissions. Existing per capita consump-

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1. Iain Guest. "US and EC split on Danger Ozone". International Herald Tribune, Paris, January 29, 1988.

tion of CFCs in developing countries was only a small fraction of that of the industrialized nations but their domestic requirement is growing<sup>1</sup>. The negotiations at Montreal faced a difficult challenge in designing special provisions to encourage developing nations to sign the Protocol. The major exception to the Article 2 controls applies to developing countries. The drafters of the Protocol recognized the special requirements of these countries for CFC use and Article 5 entitles developing countries to delay compliance with the controls of Article 2 by ten years, so long as per capita consumption of the controlled substances does not exceed 0.3 kg. per annum.

Several groups of countries secured concessions to help them over particular difficulties and to respect international equity. The biggest concession is to developing countries. For ten year, following the entry into force of the Protocol, developing countries party to the Protocol will have the opportunity to increase their production of CFCs and halons in order to enhance economic development. As an additional aid to development, Article 2 also allows

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1. Action on Ozone. op.cit., p. 698.

developed nations, to exceed production limits upto 10%, so long as this excess production is used to "satisfy the basic domestic needs" of the developing nation parties. Developing countries that join the treaty are guaranteed access to alternative substances and technology and offered subsidies, aid, credit guarantees or insurance programmes. For their use, an attractive inducement denied to non-parties<sup>1</sup>. All parties must ban imports of the bulk chemicals from non-parties by the beginning of 1990, and effectively do the same for imports of products containing the chemicals within another four years. Meanwhile, developing countries enjoying the ten year delay in implementation must not export the chemicals to non-parties from the start of 1993. Taken together, these stringent restrictions in trade provide a strong incentive to countries to join the treaty or loss their markets and supplies<sup>2</sup>.

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1. Ibid; p. 699.

2. Golubev. "Global Environmental Change" : The UNEP Perspective in I. J. Titu's Effect of changes in Stratospheric Ozone and Global Climate, New York Anchor Books, 1987, p. 21.

## INDIA AND MONTREAL

In Montreal, the delegate from Egypt, on behalf of the developing countries stated that the developing countries understanding on Article 2 (limit production and consumption of the controlled chemicals to 80% of 1986 levels for a five year period beginning on July 1, 1993 and further imposes a limit of 50% of 1986 levels as of July 1998) of Montreal Protocol on Substances that Deplete the Ozone Layer is that any of its provisions will in no way affect the agreement. India, followed by China, did not sign Montreal Protocol because of discrimination. India and China, only share 2% of world's CFCs. They argued that "CFCs problem in developing countries is irrelevant. India produces 7000 tonnes, China produces 10,000 tonnes. Smaller countries produce less than 1000 tonnes, 200 tonnes, 100 tonnes and yet this is the first international protocol. We are dragged into it, we become part of it". The analysts from developing countries criticized the treaty for making overtly generous concessions. They calculated it as the "worst case" scenarios of ozone depletion, if all developing countries were to reach their allowable per capita CFC and halon use. One among of these countries, India was significant. India's response to

Montreal remained most of worrisome factor. followed by China. Accession of the two most populous nations remained in doubt. Although, these two countries were minimal producers and consumers of CFCs, together they accounted for nearly 40% of the world's populations. Accordingly, they could undermine the treaty were they significantly to expand their use of CFCs for refrigeration and other purposes. India said that Protocol's restrictions on international trade in these chemicals would have no inhibiting effect on India and China because of their huge potential domestic markets<sup>1</sup>.

China had made substantive contribution to the deliberations in Montreal Protocol and had conveyed some positive signals at the ministerial level concerning future accession. But more troubling was the possible stance of India, which had shown no interest in the negotiations and whose officials in private conversations had characterized the issue as a "rich man's problem" "rich man's solution".

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1. Richard E. Benedick. Press Statement in Montreal, New Scientist, 5 March 1988, P.17.

India said that it has bought CFCs technology from the US firms, Allied Chemical and Pennwalt before the Montreal Protocol negotiation began. India argued that if US agreed to subsidise these technology, than India may co-operate in Ozone layer protection programme. India insisted that the issue of Indian and Chinese accession and of equitable treatment of developing countries should destined to loome larger as the "sense of urgency" over the ozone layer protection and the developed nation parties should begin to face the realities of implementing the protocol.

#### CRITICAL ASSESSMENT

Many Third Worlders are rather mystified about the calls emanating from developed countries for global action on saving the ozone layer. There was a prevailed perception that Third World countries were once again being asked to make sacrifices for the global environmental destruction wreaked by the industrial countries<sup>1</sup>.

But what is even more galling is that the Montreal

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1. U.S. Office of Technology Assessment . An Analysis of Montreal Protocol, p. 9.

Protocol on Substances that Deplete the Ozone Layer, which seeks to alleviate problems, threatens trade sanctions against non-signatories. It is apparent that many developing nations are pledging to sign the Protocol more to avoid the trade sanctions and less out of conviction that they are really contributing significantly to ozone depletion. Even environmentalists from the developing countries are skeptical to the motives.

The Montreal Protocol also suffers from a few fatal flaws. While specifying consumption level cuts, it allows production to increase by 10% above the 1986 levels. Subsequent scientific studies show that these limits will still increase the CFCs limits in the atmosphere by 100% in 2050 as compared with current levels. It also does not control other ozone depleting chemicals like partially halogenated CFC as well as methyl chloroform and carbon tetra chloride. And very few concrete steps have been taken to implement Article 5.2 and 5.3 on technology transfer and financial aid to developing countries<sup>1</sup>.

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1. Gurmit S. Singh. "The Depleting Ozone Layer: why this scare The Indian Express, 25 March 1989, New Delhi.

However, not all developing countries were satisfied with Protocol. The Malaysian negotiator at Montreal characterized the treaty as "inequitable". He wrote that developing nations had been had at Montreal because they were unaware of the full socio-economic implication of the Protocol. He also contended that the treaty's trade provisions amounted to "trade war by environmental decree". Although Malaysia did ratify the Protocol in August 1989, its objections influenced other developing nations. There was still to be considerable "horse trading" in Montreal. Although, Tolba's text had gained widespread backing, major unresolved difference remained between the United States and the EEC. The atmosphere contrasted dramatically with the tentativeness and confusion that had marked the beginning of the negotiations<sup>1</sup>.

Conflicts and uncertainties marked virtually every paragraph of the proposed Protocol, from the central questions of which chemicals were to be controlled and the stringency of those control to such crucial matters as trade

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1. A. B. Jafar. Trade War by Environmental Decree. Asia Technology, January 1990, P.51.

restrictions and procedure for decision making and voting. In addition, most developing countries, whose large and rapidly growing populations represented enormous potential demands of CFCs, showed little interest in participating in negotiations aimed at curtailing products that seemed almost synonymous with the standards of living to which they aspired. The activities of industry and environmental groups strongly influenced the course of events of Montreal negotiations and their representatives actually attended intergovernmental negotiations.

The hole over Antarctica did attract additional public attention to the ozone issue. But significantly, the most surprising thing that Antarctica was never discussed at the Montreal negotiations which were based solely on the global models. In Montreal, the issue of whether restrictions should be applied to the production or consumption of controlled substances proved extremely difficult to resolve because of its commercial implications.

It is worth repeating the complaint of India and China in Montreal Protocol that the industrialized nations were reaping the financial benefits of CFCs use and production

while requiring the poorer nations to reduce their much smaller involvement with the substances. What has amazed and puzzled India is the haste with which the Montreal negotiations was organized and the unusual response from such less numbers of countries to it. Unless, there is a just resolution of this complaint, the controversy will faster on<sup>1</sup>.

### CONCLUSION

Although, the Montreal Protocol was not perfect, it did represent a new approach to dealing with environmental risks. The negotiators at Montreal had made their top priority the setting into motion of an international process to reduce emission of ozone depleting chemicals. The drafters of the Protocol included several provisions designed to ensure that the controls contained in the document are coordinated with the latest research and developments. The agreement provides that the parties shall research and exchange information on the ozone problems, provide each other with technical and scientific information to facili-

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1. Richard Douthwaite. "The Depleting Ozone Layer" : Britain's Attitude. The Indian Express, 25 March 1989, New Delhi.

tate the goods of protocol and hold regular meetings to discuss and assess its implementation. The provision of controls are designed to promote flexibility, in the hopes that the Protocol will not become quickly outdated.

The Montreal Protocol holds a unique place in the field of international environmental law: It represents a huge "leap forward" from previous efforts made to counteract transboundary pollution. The protocol may well have a strong influence on further developments in the international environmental field. Witnessing the fruition of 12 years of personal struggle Mostafa K. Tolba declared that the agreement has shown that "the environment can be bridge between the worlds of East and West and of North and South. This protocol is a point of departure-the beginning of the real work to come".

The key to this issue was that the concept of basic domestic needs were not precisely defined in the Protocol and, therefore, still open to interpretation. As it turned out, North-South issues were far from settled at Montreal and they became a central focus of subsequent deliberation

over the protocol's implementation<sup>1</sup>.

### THEN, WHY LONDON DECLARATION ?

In the governance of the atmosphere, the greatest success story to date has been the efforts to protect the ozone layer. In early eighties, governments were confronted with mounting evidence that the ozone layer was being depleted by chemical reactions high in the atmosphere. In September 1987, negotiators signed an historic agreement, the Montreal Protocol on Substances that Deplete the Ozone Layer which called for emission of CFCs in industrial countries to be cut in half by 1998 and for emissions of halons to be frozen at 1986 level by 1992.

But few year later, new evidence emerged that ozone layer was disappearing far more rapidly than the negotiators had thought<sup>2</sup>. Studies of the recently discovered ozone hole

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1. Leonard V. Sutton. International Co-operation in Protection of Atmospheric Ozone. Denver Journal International Law and Policy, Vol.16, No. 2-3, Winter/Spring 1988.

2. Hillary F. French. After the Earth Summit : The Future of Environmental Governance. Worldwatch Institute, Washington D.C., 1992.

that opens up over the Antarctica every year have persuaded many countries that a 50% reduction is not enough. The parties to the protocol quickly returned to the negotiating table. Then, a series of meetings took place. There are some important meetings held before London Conference in June 1990. These are Helsinki Meeting May 1989 and White House sponsored international conference on Global Climatic Change in March 1990. In Helsinki Conference, it was generally accepted that a substantial total reduction at least 50% in combined CFCs and halon use could be accomplished relatively quickly and at little cost.<sup>1</sup> Although substantial cutbacks in the controlled substance appeared feasible to most observers, there was controversy over the prospects of their early elimination. India's reported move to seek \$2 billion as price switching over to substitutes of ozone depleting CFCs can not be called as unreasonable demand, as some developed countries to view it. 89 nations meeting including India in Helsinki came out with a declaration that by the year 2000 AD, all production and consumption, which damage

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1. Giant Strides on Ozone. International Herald Tribune, Paris, 6 March 1989.

the ozone layer protecting our planet, will be ended.<sup>1</sup>

The Helsinki Meeting, however, did one better by agreeing to eliminate totally the CFCs by the end of this century. The signatories, specially the affluent nations, have been pressuring India, China and some African countries to join the programme of reducing fossil fuel and wood burning. The Third World countries, led by India, have been insisting on financial assistance to help them change over to CFC free substitutes. The idea of financial assistance to developing countries was first mooted by the Executive Director of the U.N. Environment Programme (UNEP), Dr. Mostafa Tolba, at the Helsinki Meeting.

The developed countries pooh-poohed the suggestion saying that any assistance that the Third World nations may require could be had from existing aid mechanisms like World Bank. Both India and China have resisted the western pressure to toe their line<sup>2</sup>.

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1. Pamela S. Zurer. "Search Intensifies for Alternatives to Ozone Depleting Halocarbon". Chemical and Engineering News, 8 February 1989, P.17.

2. Ozone Fund. The Hindustan Times, 29 June 1989, New Delhi.

India raised this issue of ozone layer depletion in White House sponsored international conference on the Global Climatic Change. India reacted very effectively in White House Conference. India's Minister of Environment and Forest, Mrs. Maneka Gandhi conveyed to the delegates from 17 nations, the concern of developing countries on the environmental problems facing them and impressed on the industrialized world that it was the biggest contributor to global change. She said that environmental questions have become moral questions which can not be answered through only cost benefit calculations.

Mrs. Gandhi said that the European Community was extremely supportive to the concerns of developing countries. On the issues of ozone layer depletion due to CFCs, she said even those developing countries which had signed the Montreal Protocol to reduce the consumption of these chemicals "were with us". She said that developed countries exported CFCs technologies to several developing countries including India and accelerated them on the path of consumption of these chemicals. Mrs. Gandhi noted that the Montreal Protocol was to be ratified in June this year (1990) and it was

the "deadline of hope" for the Protocol to be changed to suit the needs of developing countries. When she talked about the environment as a "moral issue", Mrs, Gandhi said that she was referring to the moral issue between developed and developing nations because developed nations owe it to repair some of the work they have indulged in which, has created problems. The Conference ended in controversy when George Bush did a surprise withdrawal of "charter of co-operation" which was presented by U.S. delegate in the beginning of the Conference regarding the Global Warming<sup>1</sup>.

#### LONDON DECLARATION

A new initiative against CFCs was the "London Declaration" in June 1990. It is called a notable triumph both for the European Community and United States. This Conference drew the world's attention to the urgency of the ozone threat. It was a separate chapter in the history of ozone layer protection programme, because after many ups and downs, India and China joined the Montreal Protocol in the London Declaration held in June 1990. This was second meet-

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1. A. Balu. Developed World blamed for pollution. The Indian Express, 20 March 1990, New Delhi.

ing of the parties to the Montreal Protocol on Substances that Deplete the Ozone Layer which was held at the Headquarter of the International Maritime Organization, in London, UK, from 27 to 29 June 1990<sup>1</sup>.

### ISSUES

The parties, at their meeting, adopted the consensus adjustments and amendments to the Montreal Protocol.

(a) The adjustments adopted by the parties are the following strengthened measures for the reduction of CFCs and Halons.

- CFCs 50% reduction of 1986 level by 1995. 80% reduction by 1997. Total phase out by 2000 A.D.

- Halons freeze at 1986 level by 1992. 50% reduction by 1995. Total phase out by 2000 A.D.

The parties agreed that in 1992, the situation will be reviewed with a view to accelerating the phase out of CFCs.

(b) The amendment to the Protocol included the following :

- Control of 10 other CFCs : 20% reduction of 1989 level by 1993. 85% reduction by 1997. Total phase out by 2000 A.D.

- Control of carbon tetra chloride : 85% reduction of 1989 level by 1995. Total phase out by 2000 A.D.

- Control of Methyl Chloroform : Freeze at 1989 level by 1993. 30% reduction by 1995. 70% reduction by 2000. Total phase out by 2005<sup>2</sup>.

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1. UNEP : Journal of the International Register of potentially Toxic Chemicals (IRPTC) Bulletin, Vol.II, Nos. 1 & 2, 1992.

2. Ibid.

## NORTH-SOUTH DIVISION AND INDIA

The nations of the South, most of which had been on-lookers in the ozone negotiations through 1987 as the rich countries argued over chemicals rarely used in the developing world, moved to centre stage in June 1990 and claimed a major role in revising the Protocol. In London Declaration, the objective of the developing countries negotiators had undergone significant change. Industrialized nations, with less than 25% of the world's population, were consuming an estimated 88% of CFCs : their per capita consumption was more than 20 times higher than that of developing nations. Developing nation governments in London, stressed that the problem was not of their making. They sought assurance that their population would neither be deprived of the benefits of these substances nor have to pay for more equivalent products and technologies<sup>1</sup>.

The developing countries desired some mechanism that would ensure contributions by industrialized countries to  
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1. J.T.B. Tripp. "The UNEP Montreal Protocol : Industrialized and Developing countries sharing the Responsibility". Journal of International Law and Politics, No.3, 1989, P.744.

cover incremental cost of the phage out and transfer of replacement technologies. A crucial and universally recognized area of uncertainty was how much money would actually be needed. Outside the working group, there had been same talk in developing countries of employing the global environment as a lever for redressing North-South economic inequalities : enormous resource transfer were mooted as the price for enlisting developing nation's co-operation in protecting the ozone layer<sup>1</sup>.

The debate had a similar and familiar ring. There clearly remained difference between developed and developing nations of opinion over the acceptable degree of risk to the ozone layer. The Chinese delegation in London called for an International Ozone Layer Protection Fund to support and sponsor the promotion of CFCs substitutes and technology transfer. China demanded that substitutes and technologies should be transferred free to any party to the Montreal Protocol and the treaty of phasing out CFCs should give priority to the developing countries. The developing coun-

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1. Richard E. Benedick. op.cit., pp. 152-54.

tries would expect the western aid to implement the alternatives<sup>1</sup>.

India has agreed to sign the Montreal Protocol with China. India's, then Environment Minister, Mrs. Maneka Gandhi, who led the developing countries battle during negotiations at the ministerial conference on the Protocol, said that a favourable atmosphere has been created for India to seriously consider joining the Protocol. The Fund launched at the Conference represents a "trend setting step" as it recognises the obligation of the developed nations which have contributed to the depletion of ozone through indiscriminate use of harmful chemicals. She said that till now, India did not sign the Montreal Protocol because of financial aid and technology transfer<sup>2</sup>. Mrs. Gandhi continues to reiterate India's stand that transfer of technology to manufacture among other things environmentally friendly refrigerators which do not use chloro fluoro-carbons (CFCs) is a first pre-requisite for any consensus on the Montreal

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1. Michael Mearthy. Third World seeks aid over replacing dangerous chemicals. The Times, 7 July 1990, London.

2. L.K. Sharma. China agrees to sign Protocol. The Times of India, 30 June 1990, New Delhi.

Protocol between the developed and developing countries. She maintains that money is irrelevant if we don't have access to the knowledge. Survival is about the spread of knowledge, not money. She consistently accused the developed countries of doing the maximum damage to the ozone layer - you have polluted the atmosphere and you should pay for it. She said at the Press Conference that "we did not destroy the ozone layer. You have done that already. Don't ask us to pay the price"<sup>1</sup>.

She said, India was not going to sign an agreement that will destroy its manufacturing base and force it to buy CFCs substitute from British and American multinationals like the ICI and Du Pont. Maneka Gandhi said that the developed countries should guarantee technology to deal with CFCs, Methane, Carbon dioxide, Sulphur dioxide and others<sup>2</sup>. Before this London Declaration, India and China had refused to sign the Protocol by arguing that India and China use less than 2% of the world's CFCs, They said that the only way that de-

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1. Batuk Gathani. Maneka insists West should pay for the damage it has done. The Hindu, 30 June 1990, Madras.

2. Ibid.

veloping countries will sign the treaty is if the West prepared to provide technical aid to develop substitute for CFCs. They said the only solution will be to tax each producing country according to its output and establish a central fund for this purpose<sup>1</sup>. So, India strongly supported in London Declaration, the British Prime Minister, Mrs. Margaret Thatcher's pledge \$ 7 millions to the world's first Global Environmental Fund.

India, leading a group of developing countries at London Conference, who demanded to create an International Fund, was supported by other developing nations. Mrs. Maneka Gandhi said that India does not simply want to buy CFC alternatives, it also wants to make its own. Western governments point out that the technology belongs to private industry and is governed by potent laws<sup>2</sup>.

In London Negotiation, she said that the West has waken up to environmental problems primarily because of the ozone  
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1. A Fund Before Treaty. The Times of India, 10 March 1990, New Delhi.

2. India's terms for signing Ozone Treaty. The Tribune, 30 June 1990, Chandigarh.

depletion issue which causes skin cancer on their skins. She said "poverty" is the greatest polluter in the developing countries and the best chance for environmental restoration lies in alleviating this poverty as quickly as possible. Resources in Third World had performed to be committed almost wholly to development projects. Referring specifically to India, the minister asserted that it was the legitimate aspiration of every citizen to catch up as soon as possible with standards of the developed countries. Several pesticides banned in the developed world continued to be used in India because the country could not afford the more expensive substitutes. She said if the Third World deteriorates, the whole world does<sup>1</sup>.

At last, she said that "the whole 21st century's survival will be based on knowledge. She was skeptical of claims by western governments that they are unable to guarantee transfer of technology because the intellectual property rights were in private hands. She asked "either you sell us the technology or you change your patent rights,  
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1. Maneka Gandhi. Western Contribution to Third World Catastrophe. Mainstream, 20 April 1991, New Delhi.

start working on it". Malaysia's Environment Minister said that denying access to modern technology amounted to "environmental colonialism". Gandhi added that we have a problem about turning into a "client state".<sup>1</sup>

#### CRITICAL ASSESSMENT

The resolution of these issues in respect of the Montreal Protocol to enable the developing countries to be partners in saving the ozone layer is an acid test of the willingness of the developed nations to promote a true partnership among all the countries of the world for managing the global change. A "Fund" has been created by the Montreal Protocol after a huge battle at the London Conference by India, China and other developing countries. One of the goals of the current meeting of the treaty's 56 signatories is to coax India and China to co-operate in halting CFCs production and use. Both countries have huge populations and produce thousands of the chemical. It will do not good for the developed countries to ban CFCs if the Third

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1. L.B. Sammer. Chinese Delegates to seek Beijing's Approval for pact to protect Ozone. Los Angeles Times, 29 June 1990, Los Angeles.

World is continuing to expand production. We are all in this together<sup>1</sup>.

A Multilateral Fund was established. The parties also established an "Executive Committee" to control and administer the fund. Transfer of technology where the parties will take very practicable steps to ensure that best available environmentally safe substitute and related technology are expeditiously transferred under fair and most favorable conditions to the developing countries operating under paragraph 1 of article 5. Reconvening of the assessment panels ensuring more participants from developing countries, to up date information in their relevant fields and produce supplementary reports for consideration at the 4th meeting of the parties (1992)<sup>2</sup>.

#### CONCLUSION

Most observers regarded the London outcome on CFCs as a strong and realistic compromise. The introduction of the 50%  
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1. Kevin Fay. Statement before the House Committee on Science, Space and Technology. Washington, D.C., 11 July 1991, p. 9.

2. UNEP. IRPTC Bulletin, op.cit., p. 8

cut was both meaningful and unexpected. The Montreal Protocol, as the designers had intended, was responding dynamically to changed conditions and was setting valuable precedents along the way. A fatigued and visibly relieved Mostafa Tolba proclaimed on the night of 29 June, that the second meeting of parties had not merely strengthened a treaty, but had written a "new chapter in the history of international relations".

In accordance with the decision of the second meeting of the parties, an Interim Multilateral Ozone Fund was established at Montreal on Jan. 1991 with UNEP, UNDP and World Bank, its implementing agencies. Considerable progress has been made by the fund in preparation of country programmes and investment projects in developing countries parties to the Montreal Protocol. During third meeting of the parties to Montreal Protocol in Nairobi on 19-21 June 1991, the parties extended the membership of the Implementation Committee from 5 to 10 for better geographical distribution and raised the total amount of Interim Multilateral Fund by U.S. \$ 40 million to U.S. \$ 200 million for 1991-1993. The parties and non-parties to the Montreal Protocol

had accomplished far more than significantly strengthening controls over ozone depleting substances. They had created the first financial mechanism dedicated to protection of the global environment and for the first time, the governments of industrialized nations accepted a responsibility to help developing countries with modern technology. London Conference in its process, became a "model" for future environmental diplomacy. The negotiators in London were actually aware of the precedents they were setting for approach to other global environmental issues. In many ways, the debate over the ozone protocol were serving as a preview to the new scheduled negotiation for United Nations conference on Environment and Development (UNCED) at Rio-de Janeiro, Brazil, June 3-14, 1992 which is widely known as "Rio Earth Summit". This is followed by next chapter.

**Chapter IV**

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**Rio Earth Summit and India - 1992**

In December 1989, the UN General Assembly decided to convene a Conference on Environment and Development (UNCED) in Brazil in 1992. This Conference was to examine the inter linked problems of environment and development since UN Conference on the Human Environment (held in Stockholm in 1972). To effectively organize this Conference, the UN Secretary General, JAVIER PEERREZ DE CUELLAR appointed MAURICE STRONG of Canada (same in Stockholm Conference), a former member of the World Commission on Environment and Development, as UNCED's Secretary General who then went about creating the UNCED Secretariat. The UN also arranged for the creation of a Preparatory Committee (Prepcom) open to all UN member governments to do the work for the Brazil Conference<sup>1</sup>.

The UNCED '92' Conference (or Earth Summit, as it is referred to) was held on June 1992 in Rio de Janeiro, Brazil to coincide with World Environment Day, June 5th 1992 and is to be at the highest possible level of participation. It brought together heads of state from almost every nation of

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1. An Introductory Guide to the Earth Summit. U.S. citizens network on UNCED, San Francisco, California, 1992.

the planet to define plans of action for achieving future that is environmentally sound and equitable between nations and peoples, as well as generations<sup>1</sup>. It was a landmark event - for those who agree with its deliberations and conclusions and those who do not acknowledge it as a significant development for several spheres of human action. Earth Summit is being projected as a "last chance for mankind to tackle some of the appalling problems facing the country". MARCELLO ALLENCAR, Rio's mayor, described the "Earth Summit" as the last chance to avoid an irreversible deterioration of a once splendid city<sup>2</sup>.

Earth Summit will mark the twentieth anniversary of the Stockholm Conference of Human Environment, which first focussed international attention on the environment. Like the Stockholm Conference, UNCED will consider the environmental challenges and development problems facing the international community. It will look into the changes which have occurred since the earlier Conference and identify strate-

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1. Ibid.

2. Environment : Formidable issues before Earth Summit. Link, July 28, 1991, New Delhi.

gies for local, national, regional and global action designed to meet those challenges and promote environmentally sound development from the present into the next century. MAURICE STRONG, Secretary General of the Stockholm Conference and new Secretary General of UNCED, makes the distinction that where as the principal purpose of the 1972 Stockholm Conference was to put the environmental issue on the international agenda, the Rio Conference is to move the environment issue into the centre of the development agenda and of economic and sectoral policy making.<sup>1</sup> Rio Summit promoted the concept "Sustainable Development" into a great place linking the economic growth with the conservation of natural resources.<sup>2</sup>

Environmental security also required a new alliance and partnership with the developing countries. It is not possible to have a secure planet without their co-operation and they could not afford to co-operate unless they had a degree

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1. United Nations Conference on Environment and Development (UNCED) 1992. The United Kingdom Approach. Foreign and Commonwealth Office. p. 17.

2. Ibid; p. 18.

of economic enfranchisement beyond what they had now<sup>1</sup>. MR. STRONG said that failure at Rio would signal a massive breakdown in the global co-operation that is indispensable to both environmental and economic security which can deepen into a large scale rich-poor conflict.<sup>2</sup>

### ISSUE OF SUSTAINABLE DEVELOPMENT

Before going into details of North South division at Rio, I have discussed the question of "Sustainable Development" in detail which became the basis of the Rio Conference.

The concept of "Sustainable Development" provides a frame work for the integration of environment policies and development strategies. The word is often taken to refer to the processes of economic and social change in Third World. But the integration of development and environment is required in all countries, rich and poor. The pursuit of

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1. Environment. Department of Foreign Affairs and Trade, No.3, December 1991, Australia.

2. Maurice F. Strong. Consensus : If not Now, When ? International Herald Tribune, Paris, 21 June 1992.

sustainable development requires change in the domestic and international policies of every nation.<sup>1</sup>

In mid eighties, this concept became central issues in environmental debate. The World Commission on Environment and Development (WCED), under the chairmanship of the Prime Minister of Norway, Mrs. GRO HARLEM BRUNDTLAND, was asked by the United Nations to define shared perceptions on long term environmental issues and aspirational goal of world community to the year 2000 and beyond. One of the issues that the Commission dealt with in its final report, "Our Common Future", is the need for new approaches to environment and development.<sup>2</sup>

WCED Secretariat endorsed two basic premises :

First, that it was possible for the industrialized countries to contribute to enjoy a 2 to 2.5% growth rate till 2020 at least while actually reducing their total consumption of energy. Since the overall energy consumption of the indus-

1. New Approaches to Environment and Development. The Bangladesh Times, 8 June 1988, Dacca.

2. Ibid.

trialized, the draft report concluded that it was possible for the latter to sustain as high a growth rate as 6% with a only marginal and entirely sustainable growth of energy consumption in the world as a whole in the coming decades.<sup>1</sup>

As an integrative theme for international environmental policy, "Sustainable Development" became a central issue of discussion at Rio. Also "Development and Environment" was one of the topical categories considered at the United Nations Conference on the Human Environment in Stockholm in 1972. It was all-aged that the representatives of Third World countries were more concerned about development prospects than about their environmental future. The recommendations on "Environment and Development" represented only a small, though intensely felt, part of the deliberation at Stockholm. Reconciliation of the goals and processes of environmental protection with development was a major task of UNEP.<sup>2</sup>

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1. Prem Shankar Jha. Towards Sustainable Development. The Hindu, 13 June 1992, Madras.

2. Lynton Caldwell. International Environmental Policy : Emergence and Dimension. Affiliated East and West Pvt. Ltd. New Delhi. pp. 197-209.

The Earth Summit held at Rio in 1992 reemphasized the need for sustainable development, a term perhaps first used at the time of Cocoyoc Declaration in 1970 and gained popular currency through ICUN Report (1980, 1990) and WCED (1987).<sup>1</sup>

It began to acquire the status of de-facto official policy among governments generally as a consequence of its adoption by the "World Commission on Environment and Development" (WCED), established in 1983 by the General Assembly of the United Nations and the publication in 1987 of its report "Our Common Future".

In broad terms, these essential elements or objectives and premises cover the following aspects :-

(1) Survival of human beings (2) Survival of all other life forms (3) Satisfaction of basic human needs (4) Economic efficiency and growth (5) Maintenance of bio physical productivity (6) Preservation of environmental quality and eco

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1. Srikumar Chattopadhyay. Sustainable Development: Concept and Application. Case of Developing Countries in edited book "Environment and Development" by Amitava Mukherjee and V.K. Agnihotri. Concept Publishing Company, New Delhi. 1993.

system (7) Inter and intra generational equity (8) Social justice (9) self reliance and peoples participation (10) Stabilization of human population (11) Protection of values and ethics.<sup>1</sup>

The position of the developing countries in respect of sustainability of resources in relation to development is much more difficult compared to the developed nations. The developed countries have to adjust life styles to a more rational use of resources with particular emphasis on the present and future resources and environmental needs of large majority of humanity constituted by the poor people of the developing nations.<sup>2</sup> UNEP Executive Director, MOSTAFA K. TOLBA describes the growth of reconciliation between environmental and developmental objectives during the past two decades in the introduction to a collection of his addresses on the "Sustainable Development" theme :<sup>3</sup> "Our understanding

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1. Ibid; pp. 29-39.

2. M. Shafi. Perspectives of Environment and Development in edited Book "Environment and Development" : Views from East and the West by A. Mukherjee and V. K. Agnihotri, Concept Publishing House, New Delhi, 1993, pp. 56-69.

3. L. K. Caldwell. op.cit., pp. 215-17.

of the inter-relationship between environment and development has undergone a profound change during the past 15 years. At the end of the 1960s, it was generally believed that it was possible to have either one or the other but not both simultaneously.<sup>1</sup>

At Rio, the contrasting attitude of environmental problems between the rich and the poor countries were at the heart of political conflict over global environmental policy. In the North, the emphasis is on environmental problems and there is a tendency to see economic growth and environmental protection as mutually compatible, not contradictory aim of policy.<sup>2</sup> Indeed, environmental protection is now seen as a spur to economic growth. The largest and most technically advanced environment markets and also environment industries have developed in those countries with the most comprehensive and effective environmental legislation. In rich countries, environmental quality has become an integral

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1. Ibid; p. 221.

2. Donatus Silva. The Brundtland Report. The Bangladesh Observer, 7 July 1987, Dacca.

aspect of the quality of life.<sup>1</sup>

In marked contrast, the problems in the developing countries stem from underdevelopment and poverty. This was an underlying theme of the Bruntland Report that poverty reduces people's capacity to use resources in the sustainable manner : it intensifies pressure on the environment. The "poor", are forced to forgo the needs of the future to meet the needs of today. Hence, the issues that the South's poverty, food scarcity, diversification stand in stark contrast to the environmental pre-occupation of the North.<sup>2</sup>

In the poor countries, environmental inequality is the direct result of uneven development. Underdevelopment is the major source of conflict and consequently, a major impediment to the achievement and implementation of environmental policy. It is at the heart of conflict between North and South which was emerged, perhaps, as the critical political fault line in the contemporary world. The WCED now calls

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1. Ibid.

2. Gro Harlem Brundtland. Sustainable Development : An Overview. Development 1989 : 2/3. Journal of Society of International Development, p. 13.

upon all the nations of the world, both jointly and individually, to integrate sustainable development into their goals.<sup>1</sup>

#### ISSUES THAT DIVIDED NORTH AND SOUTH AT RIO

Long before the Earth Summit at Rio de Janeiro, the battle lines had been drawn. The clash of steel could be heard right through the torturous two years preparatory process. And instead of being resolved at Kuala Lumpur Ministerial Meet of developing countries, it was an all out war between the rich nations of the North and the impoverished one in the South. The issues that had arrayed these two group of nations against each other were critical : who is to blame for the ecological mess that the earth finds itself in ?. Who will pay for the clean up ? How much do we have to reorder our goals to save the earth ? There are six basic issues which divided the North and the South at Rio.

##### (1) Greenhouse Gas Emissions :

Most of Northern countries wanted a 20% cut in green-  
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1. Ibid; p. 14.

house gas emissions like carbon dioxide and methane by 2005. They wanted a major shift from use of coal and wood for energy. The Third World countries of South blamed the rich nations for excessive emissions over last 50 years and want them to reduce it. They opposed to any cut in its own emissions as it hinders development.

**(2) Forests :**

North wanted a legally binding convention that severely restricts the felling of forests especially which are rich in bio-diversity. South reiterated that such move will impinge on national sovereignty. The rich nations must compensate for conservation and share profits if species are used for research.

**(3) Population :**

The developed nations of North cite population explosion and poverty as the major reasons for deforestation and water pollution. They wanted steps should be taken to control population. The developing nations of South blamed rich for over consumption. They said that the developed world is responsible for consuming 60% of the world's energy re-

sources.<sup>1</sup>

**(4) Technology Transfer :**

The developed countries believe that technology development is commercial and those countries that want to utilize it must pay for it. The developing countries wanted technology used for cleaning up pollutants and for improving energy efficiency. They demanded that these technology should be transferred cheaply.

**(5) Finance :**

The developing nations refused any mandatory compensation. They said that existing UN mechanisms such as the GEF (Global Environment Facilities) or World Bank would distribute aid. The developing nations wanted firm commitments on aid for environmental issues. They insisted on a new situation whose functioning is transparent and democratic.

**(6) Degradation :**

Though the North admitted that industrialization process caused the environmental degradation, they don't want to pay for polluting the earth in the past and do not want it

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1. The Earth Wars. India Today, 15 June 1992, p. 70.

raked up. The South strongly believed that the North is responsible for all the muck in the past. And therefore need, to pay for entire cleaning up process.<sup>1</sup>

The main objective of UNCED (United Nations Conference on Environment and Development) is to translate into concrete policies and actions the concept of environmentally sustainable development mooted at the epoch-making Stockholm Conference on Environment back in 1972. Two decades have passed but the several initiatives taken by the UN member countries in pursuance of the Stockholm Conference recommendations have evidently fallen short of expectations. There has been growing realization that a still better management of environment is needed along with changes in development priorities, investment patterns and distributive impact both within and among nations. The UNCED 1992 is meant to achieve this.<sup>2</sup>

But the Preparatory Committee meetings pitted rich

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1. Ibid; p. 71.

2. B. S. Padmanabhan. Earth Summit and North South Divide. The Hindu, 7 November 1991, Madras.

nations against poor over how to halt destruction of the environment while encouraging economic growth. In each area, there was a serious North-South divide. This conflict between environmental justice and green imperialism became the most important issue at Rio. It is a misrepresentation to identify Rio with a conflict between environment and development and see this as a North-South conflict. It is wrongly assumed that the North is defending the environment while the South is defending development. In truth, the North has been resisting all serious environmental regulations through the UNCED. It is quite clear that the North has no serious commitment to protect the planet and its life but only to a non-sustainable "way of life" which is parasitic on the earth and the Third World people.<sup>1</sup>

The issues, processes, challenges, actors and interests at Rio were many and complex. At the inter-governmental level, 175 countries, many of them represented by heads of States, are to sign the Rio Declaration, Agenda 21 and Global Conventions on Climate Change and Bio-Diversity. The

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1. Vandana Shiva. An Earth Summit : Agenda against "Green Imperialism". Frontline, 5 June 1992, p. 109.

developing countries insisted that in Agenda 21, the Conference must accept time bound targets for various environment indicators provided the resources required are qualified and clearly identified. These countries argued, it is the responsibility of the major industrial countries to take corrective steps. There can be no corresponding obligation on the developing countries since they are not really responsible for causing the problems.<sup>1</sup>

The Northern countries wanted to create no new institutions, though the Earth Summit called for the largest restructuring of all institutions ever demanded in human history. They wanted to make the Global Environment Facility (GEF), located in and controlled by the World Bank, the global environment ministry of the future. Given the Bank's role in environmental destruction and poverty creation, the North's demand that the GEF be the sole financial mechanism for the implementation of UNCED agenda is like recommending that the wolf is asked to protect the sheep.<sup>2</sup> But the South

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1. Ibid; p. 110.

1. M.K. Dhar. Rao to stress removal of poverty at Rio. The Hindustan Times, June 10, 1992, New Delhi.

insisted that the thrust of the new global partnership should be to give equal weightage to the concerns of all nations.<sup>1</sup>

The countries of the South, under the banner of the Group 77, stuck firmly their stand that the North, which has created a global environmental crisis by the profligate lifestyle, must compensate by paying the bill for the clean up. The North, on the other hand, insisted that any limits of consumption patterns or life styles should apply uniformly to all countries.<sup>2</sup>

The developing countries suggested that the GEF could be considered one mechanism while the developed countries insisted that it should be the only one. As the GEF is part of the World Bank and donor weighted, the South does not accept that it is a fair funding mechanism and fears that any funds channeled through it would have environmental conditionalities.<sup>3</sup>

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1. Ibid.

2. Kalpana Sharma. Who is to pay for the clean up ? The Hindu, 10 April 1992, Madras.

3. Ibid.

The three main international treaties which created the schism at Rio were protection of tropical and temperate forest, Global Climate Convention and protection of the earth's biodiversity (Bio-diversity Convention). In each area, and every step, industrialized countries tried to intervene and suggest some universal norms and principles.<sup>1</sup> In forest issue, the developed nations argued that universal norms and principles should be applied. But the developing countries strongly resisted and said that these countries should be left to determine for themselves how they use and manage their forest resources wisely and that the West, which has contributed to the accumulation of carbon-dioxide in the atmosphere, can not now demand that all forests remain untouched just because they are CO<sub>2</sub> sinks.<sup>2</sup> The countries caught in the fight between the industrialized and the developing world were those from the former Eastern Bloc. They cut a rather pathetic figure at the Conference. It was

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1. North South Divide. The Indian Express, 27 February 1992, New Delhi.

2. Nikhil Chakravartty. Reflection on Rio. The Hindustan Times, 16 June 1992, New Delhi.

apparent that they wanted share of the development cake but at the same time, did not want to align themselves openly with the developing countries.<sup>1</sup>

The rationale behind the developing countries position has been very clear on the issue of "Climate Convention". The Convention on Climate Change aims at reduce carbon-dioxide emission levels in countries as it has been found to lead to global warming with far reaching implications for the world's ecology. The developing countries argued that the responsibility for cutting back excessive emissions of greenhouse gases, particularly carbon-dioxide (CO<sub>2</sub>) from burning fossil fuels rests on countries whose per capita consumption is high. They said that the developing countries together contribute less than 5% of annual emission of chloro fluro carbons (CFCs) and halon gas which are depleting the ozone layer.<sup>2</sup>

On Bio-diversity Convention, arises over the fact that the North controls and restricts access to bio technology

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1. Daniel Nelson. North South rift over Earth Summit. The Patriot, 30 November 1992, New Delhi.

2. The Indian Express, 27 February 1992, New Delhi.

while the Third World is pressed to take steps to conserve bio-diversity. Moreover, the protection, industrialized countries seek for their intellectual property rights is not being extended, as it should be, to traditional knowledge, the know how of farmers over centuries which has gone into developing crop varieties. The U.S. did not want to sign the Bio-diversity Treaty because it would harm the interests of its bio-tech companies, impose burden on its tax payer and raise problem of controls on funds, the developed countries are willing to give developing countries. So, it seems that the reasons for the U.S. position are, of course, directly related to commerce and not to protect plants and animals per se.<sup>1</sup>

Forty countries have signed the Convention on preserving Flora and Fauna which the U.S. has stubbornly refused to endorse even though the president, MR. Bush's arch ally, Mr. John Major has signed on the dotted line. Their anxiety to protect the interests of the growing bio technology industry in the U.S. was the chief motivation in convincing Mr. Bush

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1. Jeffrey A. Mcneely. Bio-diversity Convention since Rio. The National Herald, 1 September 1993, New Delhi.

not to sign the Treaty. Mr. Bush added that there are two things wrong with the Bio-diversity Treaty. One is that it does not protect bio technology and the other, the financing arrangements.<sup>1</sup> By refusing to sign the Treaty, the U.S. has exposed its inability to accept the fundamental link between environmental protection and global trade which hitherto had remained outside the purview of such discussions. In fact, the very concept of Earth Summit which sought to integrate environmental concerns into development ensures that this aspect can not be ignored.<sup>2</sup>

#### INDIA AND RIO

In spelling out India's position on the environmental agenda for the Earth Summit in June. MR. KAMALNATH cited the two key principles that must inform any global agreements. These are the development needs of Third World countries and national sovereignty. India led the Third World countries in Rio. India emerged as a major player and a powerful bridge

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1. Darryl D'Monte. U.S. decides to accept Rio Declaration. The Times of India, 12 June 1992, New Delhi.

2. Kalpana Sharma. Biodiversity and U.S. Objectives. The Hindu, 18 June 1992, Madras.

between the developing and developed world protecting the interests of the Third World nations through its skillful and diplomatic negotiations.<sup>1</sup>

The Prime Minister of India, Mr. P.V. NARASIMHA RAO became the first speaker when India was given the singular honour of addressing the Earth Summit. India led the Group 77 nations through most of the negotiations defying any treaty being trust on them by the affluent nations that could prove detrimental to their interests.<sup>2</sup> India set the tone by placing before the Summit's agenda its suggestion for the creation of a "Planet Protection Fund" as conceived by the late Prime Minister MR. RAJIV GANDHI at the Belgrade NAM Summit, where every countries would contribute a certain portion of its GDP for this purpose. The proposed fund was the first institutionalized effort on this scale to tackle the problems of environmental degradation,<sup>3</sup>

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1. Landmark year for a Pollution Ravaged World. The Times of India, 28 December 1992, New Delhi.

2. Ibid.

3. Ajai K. Rai. Novel Plan to Protect Human Kind. The National Herald, 9 September 1989, New Delhi.

Developed countries, led by the United States, tried to bring pressure on all the developing countries to agree to a Convention on Forestry which prohibited them from cutting down trees on the pretext that they were rain forests and needed as Co<sub>2</sub> sink to absorb pollution. Since the Convention is a legally binding document, India and Malaysia successfully thwarted attempts by the North, particularly the U.S. and ensured that only a Statement of Forestry Principle was issued at the end of the Summit.<sup>1</sup>

The Climate Change Convention signed by a record number of 160 nations prescribed the limits for carbon emissions so as to minimise the effects of climate change, caused by greenhouse gases and global warming. India became the second country after Brazil to sign the Bio-diversity Convention. The Bio-diversity Convention along with the one on Climate Change, is the centerpiece of the Earth Summit. An equal number of countries signed this Convention but United States, which was expected to lead the table at the Earth

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1. U.S. holds key to Rio Meet success. The Hindustan Times, 22 June 1992, New Delhi.

Summit, stood isolated by refusing to sign the Convention.<sup>1</sup>

India led the Third World in persuading the United States to sign the Convention which sought to preserve the flora and fauna of the planet. The United States refused to sign the Convention because it would hit its \$ 2 billion bio-technology industry back home and the issue of Intellectual Property Rights (IPR) coming under the aegis of GATT negotiations remained contentious. That is why India delayed to sign the Climate Change Convention. MR. KAMAL NATH, the minister of state for Environment and Forest disclosed that India, China and Pakistan are co-ordinating closely on the issue and there can be no moving away from the principle of equity.<sup>2</sup> India also demanded the "polluter must pay" principle to be applied by United Nations. The U.N. Secretary General MR. BOUTROS BOUTROS GHALI also mooted the "polluter pays" principle at Rio.<sup>3</sup>

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1. Usha Rai. India signs Bio-diversity Treaty. The Indian Express, 6 June 1992, New Delhi.

2. India led Third World at Rio, The Statesman, 30 June 1992, Calcutta.

3. Boutros Ghali moots "polluter pays" principle at Rio. The Times of India, 4 June 1992, New Delhi.

Our Prime Minister said that India is not dependent on aid from outside to protect its environment and it has an independent stand on environment issues. The need of the hour is to integrate environmental protection in the planning process itself. On the problem of "new and additional funding" for global environmental protection, MR. RAO said there is a international agreement on the need for setting up of such a fund and the problem was only about the funding mechanism. He said "a single omnibus model" for all countries, developing or otherwise, is not possible as all countries have different types of problems and these have to accord priorities accordingly.<sup>1</sup> He proposed a new global partnership to solve the seemingly intractable problem of poverty, environment and sustainable development. He urged the developed countries to accept the responsibility for conserving the environment and setting apart resources for helping the poor South to develop economically and transfer to it technological know how to ensure environmentally

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1. India self-reliant on Environment : Prime Minister. The Indian Express, 13 June 1992, New Delhi.

acceptable growth.<sup>1</sup>

He insisted that removal of global poverty is a critical pre-requisite for finding solution to the problems of environment. He said we must see that the affluence of some is not derived from the poverty of many. He said that it is not a simple question of transfer of technology as commonly understood. Indeed, the process has to start with stopping the transfer of destructive technologies which alone can give incentive to the development of environment friendly technologies.<sup>2</sup>

As a part of co-operation among developing countries, the G-15 countries have adopted solar energy application as a key project for Joint Research and Development. This is basis for another G-15 project - the creation of Gene Bank. For both these projects, India is the co-ordinator.

MR. KAMAL NATH said that developing countries could not be expected to compromise their effort towards development

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1. M.K. Dhar. Rao to stress removal of poverty at Rio. The Hindustan Times, 10 June 1992, New Delhi.

2. Prime Minister's speech at Rio de Janeiro, Brazil.

and poverty alleviation while tackling the environment problems.<sup>1</sup>

He said that "development" is the right of the developing countries. Conditions must be created in which they are enabled to develop rapidly, avoiding the dirty-industry route to development through access to sustainable and environment - friendly technologies. The primary responsibility for sustainable development rests, of course, upon the developing countries themselves. The cost of conservation are an integral part of development and therefore, mechanism of conservation have to be built into the process of development. The removal poverty is the only viable environmental strategy for the world as a whole. Equally, it is essential that developing countries not become the dumping ground for technologies that have already inflicted unacceptable environmental damage in the countries of the North where they originated. At last, he said that sharing responsibility means sharing costs. Developing countries have made the least contribution to environmental degrada-  
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1. India : U.S. stand unfortunate. The Hindustan Times, 3 June 1992, New Delhi.

tion. They must now integrate the costs of conservation into the cost of the development, so that all might survive : this can not be a matter of merely national action : national action must be complemented by a suitable framework of international co-operation, with the developed countries contributing their due share to reparation of damage already done and the maintenance of sustainability in future development.<sup>1</sup>

#### CRITICAL ASSESSMENT

The "eco festival" in Rio de Janeiro is over, now it is time to sober up and assess what was achieved by the 12 days megaevent. After the euphoria of witnessing all 178 members of UN attending the jamboree and the successful passage of two key conventions = one with the notable exception of the U.S., there is a hard headed realization that, apart from the momentum it has given to the environmental movement world wide, the gains are somewhat less substantial than

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1. Address by Mr Kamal Nath, Minister of Environment and Forest, India to United Nations Conference on Environment & Development, Rio de Janeiro, Brazil, June 1992. Government of India, Ministry of Environment & Forests, New Delhi.

appeared at first.<sup>1</sup>

The dual process of conflict and accommodation between contending positions taken by developed countries and developing countries in UNCED is evident from all documents emanating from UNCED. This is perhaps best exemplified in the Rio Declaration which is portrayed as the international consensus on the future direction of global environment and development. The Declaration provides a framework of values welded into an attempted integration, but the specific conventions show up more clearly areas of conflicting interests.<sup>2</sup>

In term of expectations, UNCED foresees that the gathering in Rio will have six major output. Each of these output covers a broad range of topics or "issue areas". These outputs are as follows :-

(1) Conventions :- It is a hoped that the Conference will

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1. Darryl D'Monte. Post Rio Blues : Forest, Funds hang over. The Times of India, 27 June 1992, New Delhi.

2. Akshay Jaitly. An over view of Post Rio political Economy Issues in the Book "The Road from Rio" edited by Pradipto Ghosh and Akshay Jaitly, Tata Energy Research Institute, New Delhi, 1993.

bring about the Global Convention on certain issues of global importance (i.e. Climate Change, Bio-diversity and Forestry)

(2) Earth charter :- It is basically a document based on Rio Declaration by which people should conduct themselves in relation to each other and to the governments. It is the charter of rights which will be a Magna Carta for the planet. At the same time, it would safeguard against destructive practice in the North. It will be the ethical standard underlaying the actions outlined in Agenda 21.

(3) Agenda 21 :- A programme of action for the implementation of principles enunciated in the Earth Charter. It is a way of saying this is what we must do to bring ourselves into the 21st century. It is a statements of goals and objectives as well as a list of strategies and actions that will be taken to meet those objectives.

(4) Financial Resources :- The Conference itself also expected to consider "ways" of financing these activities especially in developing countries. The UN believed the Conference must ensure access by developing countries to the

additional financial resources they will require to integrate the environmental dimension into their own development policies and practices, as well as the incremental costs that will be incurred by complying to the international environmental conventions and protocols.

(5) **Technology Transfer** :- In same way that some countries will need financial resources to undertake the actions and programmes that are required of them after the Earth Summit. The UNCED secretariat feels many countries will need access to technologies that allow them to take care of their environment. According to the Secretariat, the technologies should be provided them on an "equitable" basis.

(6) **Institutional Arrangements** :- As a final output to UNCED, the organizers of the Conference hope that they will be able to strengthen existing institutions which deal with environment and development issues. (eg. UNEP, UNDP)<sup>1</sup>

But in every stage, there was a non-compromising attitude between the developed nations and the developing na-

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1. On the Road to Brazil. The Centre For Our Common Future, Geneva, Switzerland, pp. 5-7.

tions. In fact, the agenda for the Earth Summit does include issues such as programmes for poverty alleviation and environmental health, but the major focus of attention in all the preparations has been slanted towards concerns related to the global environment and its protection. The UNCED Secretariat itself has come up with a blue print for the next century called "Agenda 21". Among other things, Agenda 21 clearly estimates a transfer of \$ (US) 125 billion per annum from the countries of the North to the South in order to protect the environment both of the global and local levels. But unfortunately, the receptivity of the developed countries to this particular recommendation and other components of Agenda 21 has generally been negative and discouraging. India argued that Agenda 21 is too much like a big shopping list and had not focussed enough on the five major issues - poverty, population stabilization, pollution and public policy for action. Although the Rio Conference was an important exercise in global public awakening, it is not specific and integrated enough in its programme.<sup>1</sup>

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1. Nirmala Lakshman. The Road From Rio. The Hindu, 21 June 1992, Madras.

Sustainable Development constitutes the stated goal of the UNCED process. However, an analysis of documents reveals that they provide no clear definitions of the concept of sustainable development. The Rio Declaration contains numerous references to sustainable development.

The Climate Convention and the Biological diversity Convention both explicitly recognize that economic and social development and poverty eradication are the first and overriding priorities of developing countries. The crux of the post Rio environmental debate will relate to the mechanism to deal with poverty eradication and transfer of technology.<sup>1</sup>

One of the principal concern of developing countries in the global environmental process has been to prevent any international jurisdiction over of what are considered national natural resources. On the Biological Diversity Convention, it could be said that sovereignty might be affected due to the promise of access to bio technology. So, sovereign rights should be given up because access to re-

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1. Akshay Jaitly. op.cit., pp. 28-29.

sources is essential for the success of the Convention. One of the crucial questions that Rio poses is that of the structure and functioning of the international financial mechanism that will oversee financial transfer envisaged in conventions and Agenda 21. The developing nations demanded that financial mechanism shall have equitable and balanced representation of all parties within a transparent system of governance. Article 21 deals with financial mechanism and envisages that GEF (Global Environment Facility) of the World Bank, UNEP, UNDP will be the international entity entrusted with this task and GEF's membership should universal.<sup>1</sup>

Among the tangible achievement of the Rio Conference was the signing of two conventions, one on Biological Diversity and another on Climate Change by 153 nations which are legally binding. The delegates also approved by consensus three non binding documents: a statement for forestry principles, a declaration of principles on Environmental policy and development initiatives and Agenda 21, a programme of

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1. Ibid; P.30-36.

action into the next century.<sup>1</sup>

The setting up of the new Commission on Environment and Sustainable Development will be an important first step if the Summit's work is to see results. It is expected to monitor and oversee the promises made in Agenda 21. The contribution of Non-governmental Organizations (NGOs) both in the Preparatory Meetings and Conference itself has substantially altered the contents of Agenda 21.<sup>2</sup>

The scandalous reluctance of the U.S. to be drawn into a commitment for aid provided a bad example for the European nations like Great Britain and Germany who made statements committing themselves to an ultimate 0.7% of GNP but refused to target a date for their aid deposit pressures from France and the Scandinavian countries to be more generous and specific. It refused to sign the Treaty on Biological Diversity saying that it did not protect the bio technology interests of private research laboratories in the North and it insisted on a water down Convention on Climate Change by  
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1. O. P. Sabherwal. Earth Summit : Rio blazes a new trail. The National Herald, 8 July 1992, New Delhi.

2. Nirmala Lakshman. op.cit.

saying that "job at home" had to be protected above global environmental concerns.<sup>1</sup>

But Summit failed to obtain specific financial resources urgently needed to contain global environmental degradation. In assessing the outcome, opinion was sharply divided. There were some who felt that as the beginning of a new political process in a post cold war world on global cooperation, the Summit was a landmark event and there are others who expressed bitter disappointment that at the end of it, the world continued to be divided as sharply as ever between the rich and poor, the powerful and the powerless, between the world's structured mechanism and great bureaucracies and those that are its perpetual victims.<sup>2</sup>

While there is general agreement on the need to have the Commission on Sustainable Development (CSD) as a multi-lateral mechanism to monitor implementation of the agenda, perceptions differ greatly on its composition and powers it

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1. Darryl D'Monte. Breakthrough on Forestry Draft in Rio. The Times of India, 13 June 1992, New Delhi.

2. K. C. Pant. The Road from Rio. The Patriot, 13 October 1992, New Delhi.

should have. Besides the differences on the CSD structure, the overemphasis by some developed countries on the high power Advisory Body that will assist the Secretary General in the task of monitoring agenda implementation, has led to a controversy. The role of Advisory Body as envisaged in the agenda is acceptable to the all parties, but causing concern among South countries is the attempt by some developed or so called donor countries to institutionalize this mechanism. India wanted it to be democratically constituted without any donor bias. The South wanted the Commission to be modelled on the lines of ECOSOC with geographical representations to countries.<sup>1</sup>

Food security and poverty were not also specifically addressed by the Summit although rhetoric on these abounded in document and speeches. Mr. K.C. PANT of India said that the Rio Conference should have addressed issue of poverty and development far more effectively than it actually did.<sup>2</sup>

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1. Dinesh C. Sharma. Road from Rio is not smooth. The Observer, 2 November 1992, London.

1. Nirmala Lakshman. A step forward from Rio. The Hindu, 2 July 1993, Madras.

The experience at Rio has demonstrated that how easy it is to create divide among developing countries groupings and than are vast difference among them both political and environmental. The result of these differences was the demand for a separate Convention on Desertification by African countries and do not object to go along with the U.S. on several of its initiatives with the aim of receiving aid for deserts. Oil producing countries also are supporting such language because it would perpetuate their dominance as the primary suppliers of fuel for some decade to come.<sup>1</sup>

At last, the greatest failure of the Rio Summit was its inability to safeguard concerns of indigenous and local communities (for which the UNCED is meant) to their community resources and practice though the Rio Declaration acknowledges that indigenous people and their communities and other local communities have a vital "role" to play in environmental management and development because of their knowledge and traditional practices. Also, the message of the Rio process is quite clearly anthropocentric. Only the  
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1. Darryl D'Monte. Countdown to Rio : North calls the shorts. The Times of India, 13 June 1992, New Delhi.

concern and rights of human are implicated and there was no provisions for rights of animals or any other living non-living entities.<sup>1</sup>

## CONCLUSION

If the Earth Summit did not really succeed in bridging North-South tensions as it set out to do, it, at least, set out in urgent terms that nations and communities have to get down seriously and urgently to the business of redefining priorities and setting goals and targets for immediate actions. It may be too hopeful to assume that the Rio Summit will be a tangible turning point in Indian environmental planning and development priorities. MR. KAMAL NATH said that what India gained at the Conference was a better understanding by the international community of the great efforts that we have made in our country not only on the development front but also towards environmental protection despite scarce resources. India's approach was been accepted and it had been recognized as an activist country. He also said

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1. C. Suriyakumaran. The Earth Summit : Benchmark or Non Event in the book "The Road from Rio" edited by P. Ghosh and A. Jaitly, Tata Energy Research Institute (TERI), New Delhi, 1993. p. 47.

that in fact, the output from Rio clearly recognizes socio economic and poverty alleviation as the first and foremost concern of the developing countries.<sup>1</sup>

However, the historic communion of nations in Rio de Janeiro did acknowledge that the world has radically to change its approach to economic growth and the problems of underdevelopment in the South.<sup>2</sup> The Rio agreements have set up a framework for policy making and action for integrating environmental concerns with development at global, national, state and local levels. However, this framework needs to be given substance. In Post Rio phase, we are immediately confronted by the fact that several protocols needs to be negotiated, the institutional framework for international co-operation and transfers of resources and technology has to be established and developed countries must begin committing funds for sustainable development. The biggest challenge in the wake of the Rio Summit lies, therefore, in

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1. Maurice Strong. The Rio Agenda : Consenques if not now, when ? The International Herald Tribune, 21 June 1992, Paris.

2. Maurice F. Strong. The Rio Agenda : Guidelines for a viable future. The International Herald Tribune, 21 June 1992, Paris.

setting up a framework for policy making and plans that faithfully and fully integrates environmental concerns with development issues at the most basic levels.

Whatever happened in Rio, it will change our lives forever. This may be the best chance, the last chance to save the earth. The decisions at Rio will determine the prospect the future of our planet and its people. It is a greatest historic Conference that has been ever held in the history of environmental issues of world. For the first time, the head of states and the head of the governments including all sections of society starting from scientist, business leaders, educators, religious and cultural leaders, trade unions, non-governmental organizations (NGOs), women, youths, indigenous people, parliamentarians and local government leaders did take part.

Instead of confrontation and breakdown, the UNCED has witnessed the emergence of North-South co-operation and a programme of joint action though nations maintain reservation and their singular point of view in many instances and gaps remain in the environment programme, Agenda 21. The balance sheet of the Rio Summit, participated in by as many

as 115 heads of state and government, is positive all along the line notwithstanding the acrimony and debate packed in 12 days intensive deliberations. The instruments and documentations emerging from the UNCED have clearer, better defined objectives and perspectives, backed by a plan of action, such as no international summit of this magnitude has produced.

The challenge before all of us is to contribute our part in supporting our leaders in the exercise of their historic responsibility to ensure a more secure, hospitable and sustainable future for the entire community as we move into the 21st century. Failure at Rio would signal a massive and perhaps irretrievable breakdown in the global co-operation that is indispensable to both environmental and economic security which could deepen into a large scale rich-poor conflict.

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**Conclusion**

The issues above are now acknowledged by political leaders of world to be among the most vital for the global agenda. So serious are the ecological problems and their social affects that they threaten the survival of the earth and humanity. Since these problems have arisen from economic activities, they throw into question the economic system and mechanisms that have driven the world including the dominant models of the development that had been adopted in the Third World in past half century.

In view of the paradigm shift that is now taking place due to environmental crisis, it is also important to review the role of aid and international co-operation. It cannot be denied that the agencies of international co-operation, be they the U.N. agencies and other multilateral institutions like World Bank, IMF and GATT, or the bilateral aid agencies and also the private grant-making agencies including research foundation, have played a major role in financing and facilitating the transition from direct colonialism to the post-colonial economic order, in particular the post-colonial developmental models in the Third World.

In light of the ecology crisis, the dominant paradigm

of the "economic development" and "modernisation" is now being challenged by the emerging paradigm of "sustainable development" and "ecology". In light of this emerging paradigm, the past and still current models of development propagated by the international co-operation agencies must come under severe criticism.

In every conference, the whole issues were distorted by financial resources and eco-friendly technologies demanded by developing countries for cleaning-up the ecological mess. The developing countries demanded that the North should pay for the clean-up and there should be new and independent institutional arrangements to finance the developing countries. In term of expectation, very less were done.

Until early 1970s, concern with environmental quality was often regarded as luxury beyond the reach of developing nations. During the 1972, United Nations' Conference on the Human Environment in Stockholm, India's Prime Minister, Late Mrs. Indira Gandhi expressed the sentiments of many developing countries' leaders. When she said, "how can we speak to those who live in the villages and the slums about keeping the oceans , rivers and the air clean when their lives are

contaminated ? Are not the poverty of the poor and the greed of the rich the greatest polluters ?" Since that time, prevailing views on the compatibility of economic development and environmental protection have changed considerably. Sound management of the environment and natural resource base has come to be seen as a prerequisite to sustainable development<sup>1</sup>.

The economies of many developing countries depend heavily on their use of their natural base, specially in agriculture, forestry and fisheries. It is unfortunate that environmental degradation is generally severe in these countries, where the people live close to the land and water and making their living from those resources than in industrial countries. Furthermore, many developing countries are situated in the tropic: tropical eco-system are vastly more complex, less well understood scientifically and more sus-

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1. James Lee and Robert Goodland. Economic Development and the Environment in edited book "Economics of Environment" by S.L.Lodha, R.B.S.A. Publisher, Jaipur, pp. 33 - 35.

ceptible to irreversible damage from development than those in temperate zone. The problems of developing countries are due to the lack of development where in developed countries it is due to the development and excessive wasteful lifestyle and consumption. Again, the developing countries often purchased out-of-date, "dirty" industrial technology or second hand plants at bargain rates.

The World Bank has historically interpreted environmental issues broadly to include the sustainable management of the natural resources, the urban environment and human health and well-being including that of generations is yet unborn. These dimension of development, by their very nature, are not fully accounted for in the workings of the market and are often inadequately addressed by conventional economic cost-benefit analysis. Even social cost-benefit analysis seemingly cannot adequately treat them<sup>2</sup>.

The Bank's approach to environmental protection and management is tailored to a particular condition at the site

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2. Udo Ernst Simon. Environmental Crisis: The Missing Dimension in the North-South Dialogue in edited book, "Economics of Environment", by S.L. Lodha, RBSA Pub, Jaipur.

of each of the projects it assists and to the institutional capabilities of the government agencies responsible for project implementation. It is difficult to clearly delineate the causes and consequences of environmental degradation in terms of simple one-to-one relationship. The causes and effects are often interwoven in complex webs of social, technological and environmental factors. It becomes clear that a concern for the environment is essentially a desire to see that national development proceeds along rational, sustainable line. Environmental conservation is, in fact, the very basis of all development. The overriding impact of adverse demographic pressures on our resources and ecosystem due to poverty and overpopulation of men and livestock has to be highlighted.

We should ensure sustainable and equitable use of resources for meeting the basic needs of the present and future generations without causing the damage to the environment. There is a need for carrying out our environmental impact assessment of all developmental projects right from the planning stage and integrate it with their cost-benefit considerations.

Every nation should create environmental consciousness through education and mass-awareness programmes and ensure people's participation in conservation. Environmental consideration should be integrated while encouraging industrial growth. "Polluter Pays" principle should be operated by introducing effluent tax. Implementation of the aims and objectives of conservation and sustainable development will require integration and internalization of environmental conservation in the policies and programmes in the development in various sectors<sup>3</sup>.

The question here lies that environmental problems in the Third World rampant but what could the North do ? In this prospect, there is the need of international co-operation for environmental protection and how to bring the missing dimension in the North-South dialogue. The international aspects of environmental pollutions and of their

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3. Policy Statement on Environment and Development, Ministry of Environment and Forests, Government of India, June 1992, New Delhi.

causal sequences make international co-operation necessary and more and more urgent but they don't remove primary national responsibility. This applies also to most of the environmental problems from which the Third World has suffered. This responsibility principle can remain an empty principle if the individual countries lack the requirements of the fulfillment of these responsibilities in practice, for example, financial resources or technological know-how.

The support given to developing countries by the governments of the industrial countries can be very extensive but the principle of sovereignty will probably have precedence particularly for the governments of the developing countries. A fundamental difference exists only if it is the question of protection against global pollution which also hits the developing nations. Here, the responsibilities of the industrial countries are directly and immediately involved particularly if they are the main sources of the pollution. Through better adopted development assistance, existing or planned projects are to be organised so as to be compatible with the environment and the developing countries are to be assisted financially and technically in their own efforts.

The expectations from the developing countries should take account of their present economic situation. At present, most of the developing countries are trying to adopt their budgets and budgetary deficits to the changed international economic framework conditions and primary considerations is therefore being given to curtailing national expenditures. In cases where the industrial countries themselves control the adoption of the policy, they can make a direct contribution for protection of the environment in the Third World. With a global environmental policy, cooperation, however, at least, between the industrial countries must be achieved. In the majority of the cases, conflict of interests which arise from the burdens of such an environmental policy and from their international distribution prevent effective policy.

Now, the developed countries trying to separate the economy and ecology to which the developing countries oppose with full force. Another major stake may be GATT. Massive expansion in the scope of the GATT, under Uruguay Round, to radically undermine the commitment of the international community to environmentally sustainable development. De-

regulation of trades in countless items, including timber, will thwart national as well as global efforts to save natural resources like rainforest and protect the rights of the native people. Despite strong environment protection movement, the GATT has not shown any serious concern for the ecological consequences of proposal for freeing world trade. The effect of unrestraint trade could be far more disastrous in developing countries which don't as yet have a strong awareness about environment nor the resources to promote environment-friendly technology<sup>4</sup>.

India, since the early seventies, has taken an active part in the global efforts to tackle global environmental problems. As it shares such global concerns, India is an active participant in several international efforts towards the environmental protection. India along with other developing countries has also sought and obtain amendments to the Montreal Protocol so that we can actively participate in the global efforts to save the ozone layer. India is also participating actively in the ongoing negotiations for conventions on Climate change and Biological diversity.

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4. GATTASTROPHE, Public Interest Research Group, New Delhi, p. 35.

It has been India's firm conviction that it is the process of industrialization and the continued profligacy of industrialized economies that have created the problems which threaten our planet and its lifeforms. It is true, of course, that this has not been consciously or intentionally (except in matters such as dumping of hazardous wastes or the use of nuclear and chemical weapons). Nevertheless, the responsibility is clearly established as also the need for urgent and effective action, by the developed world, to prevent global disaster. This includes not only direct action but also indirect measures such as creation of an economic order which helps developing countries to exert less pressure on their own natural resources.

The India's approach to global environmental problems is generally in keeping with other developing countries and has the following basic element.

"Our economic development cannot be hampered in the name of the global environment which we have done nothing to damage and can do little to save. Our resources are required to meet our developmental needs. Without this development, threats to the environment will in any case grow. In the short run, this developmental effort could even add to the discharges and emissions which cause global problems but these are miniscule compared to the quantities which industrialized countries have already contribut-

ed. With new and additional Funding support and transfer of environmentally sound technologies from the developed countries, we will be in a position to augment our capacity to deal with the environmental problems".

But in the name of environment protection, the developed nations threat the trade sanctions against developing countries. They want to provide financial resource through existing world financial institutions like World Bank, IMF. It is nothing surprise to see this kind of attitude of developed countries by developing nations as a new kind of imperialism - "ecological or bio-imperialism". The developing nations see it as "old wine in new bottle". The problem lies here because the ecological crisis is being perceived differently. So, forgetting the perception of hundred earths, we should have a single and common approach to "only one Earth" or "single Common Future". If we are to plan for a better future, it would have to be on the principles of equity and sustainable development. India is also opposing linkage of trade with environment at the international level. A far reaching resolution on trade and environment is on the anvil with the developed nations at cross-roads with the developing world. India has welcomed recently the Bill Clinton Administration's historic imposition of trade sanctions against Taiwan to protect endangered wild-

life. This is for the first time, the U.S.A. has used this weapon to protect environment. India believes that this kind of constructive co-operation will always prevail.

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