

Stockholm conference essay



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I. International Efforts Introduction Man's concern for natural environment has always been there but his serious concern about the issues of resource depletion and degrading environment/ecosystem began after World War II when industrialisation started vigorously. However, nothing tangible was done to control damage afflicted to environment till 1960s. In the early decades industry, trade and business resisted efforts aimed at environmental protection and resource conservation because money spent on such efforts would diminish profit.

However, the attitude is changing, not because of legal action only but also due to realisation that cutting down on raw material and generating less waste could be a financial gain. Also, there was an International angle to environment which could not be ignored. It became clear that problems like Ozone Depletion or Global Warming cannot be tackled at national level alone. Leaders, politicians and people in general, therefore, started looking up at organisations like UN for environmental issues. United Nation's Conference on Human Environment, 1972

It was in the light of above mentioned scenario that the United Nation's Conference on Human Environment was held in 1972 at Stockholm. It marked the beginning of organised international efforts for comprehensive programme to safeguard environment while also promoting economic development. The following two strategies emerged in this conference. 1. The principles and action plan were evolved for controlling and regulating human environment. 2. Institutional and financial arrangements were proposed for achieving the goal for regulating human environment.

This has been called the Magna Carta on environment. It declared: a) Humans have the fundamental right to freedom, equality and adequate conditions of life in an environment of quality that permits a life of dignity and well-being. b) Human beings have responsibility to protect and improve the environment for present and future generations. General Assembly's Resolution of December, 1972 Stockholm Conference was followed by the United Nation's General Assembly resolution on December 15, 1972 emphasising the need of active cooperation among the States in the sphere of human environment.

The Resolution designated June 5 as the World Environment Day and urged governments and organisations in the United Nations system to undertake on that day every year worldwide activities reaffirming their concern for the protection of the environment. Another resolution was passed which provided for institutional and financial arrangements for international cooperation for environment. Amongst other decisions, provisions were made for establishing a Governing Council for Environmental Programme (Headquarter at Nairobi) leading to establishment of Environment Secretariat and Environment Fund.

The Governing Council formulated long-term and short-term plans for the protection of environment particularly relating to development. Charter of Economic Rights and Duties of States, 1974 The Charter of Economic Rights and Duties of States 1974 is a document of UN. One of its articles states that: " The protection, preservation and the enhancement of the environment for the present and future generations is the responsibility of all States.

All States have the responsibility to ensure that the activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. All States should cooperate in evolving international norms and regulations in the field of the environment". UN-Habitat Conference on Human Settlement of 1976, World Water Conference of 1977 and Other Conferences The international efforts at the protection and preservation of environment became vigorous in 1970s and 1980s.

Most important efforts are the following: 1. UN Habitat Conference on Human Settlements in Vancouver, Canada in 1976. 2. World Water Conference in Mardel Plata, Argentina in 1977. The World Water Conference called upon the UN to establish a programme with a goal of providing clean drinking water and sanitation to all. 3. The UN Desertification Conference held in Nairobi in 1977. 4. Paris Conference, held in 1986 called for " saving trees and forests". The Conference was attended by Heads of States and Government officials from 36 countries.

Environmental Education Conference In 1977, United Nations Environment Programme (UNEP) and United Nations Educational, Scientific and Cultural Organisation (UNESCO) organised an Intergovernmental Education Conference at Georgia. The Conference was attended by over 400 delegates from 74 countries. The UNEP Executive Director underscored that environmental education was a matter of life and death and that problems of environment were jeopardising the development of mankind. World Commission on Environment and Development

In 1980s, international community became seriously concerned with increasing problems of environment. Problems of ozone depletion, climate change (global warming), declining of fisheries and forest cover, loss of biodiversity, pollution and hazardous wastes attracted the attention at global level. Equally, issues of sustainable development became of paramount importance especially for the developing countries. Earth Summit 1992* Introduction UN convened a United Nations Conference on Environment and Development (UNCED) at Rio de Janeiro in 1992.

It is called Earth Summit. An eight hundred page document, called Agenda 21, was issued at this Conference. It contains comprehensive blueprint for governments on everything from population strategy, management of hazardous wastes, recycling, energy conservation, renewable energy, business strategies to role of women in environment. Rio Declaration Having met at Rio de Janeiro from 3 to 14 June, 1992: ? Reaffirming the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16 June, 1972, and seeking to build upon it; ?

With the goal of establishing a new and equitable global partnership through the creation of new levels of cooperation among States, key sectors of societies and people; ? Working towards international agreements which respect the interests of all and protect the integrity of the global environmental and developmental system; ? Recognising the integral and interdependent nature of the Earth, our home; Earth Summit +5 * ? The governments acknowledged that global environment has continued to deteriorate since Earth Summit 1992 with increasing emissions of greenhouse gases and generating of more solid wastes.

Also pollution and effluent treatment continue to be major problems. ?

Renewable resources like fresh water, forests, fish continue to be used at an unsustainable rate. On the positive side it is noted that: i) World population is slowing, ii) Food production is rising, iii) Life span has increased. Earth Summit +5 addressed itself the above concerns and the participating governments took action on several fronts and agreed to the following: ?

Reconfirm the political commitment to sustainable development from all members of the international community, as well as from all major groups of civil society; ?

Reconfirm the financial commitments and targets for official development assistance (ODA) made by industrialised countries at the Earth Summit, and call for intensified efforts to reverse the downward trend in ODA; Earth

Summit 2002- Johannesburg Summit ? The summit reaffirmed sustainable development as a central elements of the international agenda and gave a new impetus to global action to protect environment and fight poverty. It was decided to establish World Solidarity Fund for eradication of poverty.

The linkages between poverty and environment/resource use was re-examined to strengthen this relationship. ? Governments agreed to reaffirm the targets and commitments for action for better implementation of sustainable development. ? Energy and sanitation issues became important elements of negotiation than previous international meetings. ? It was decided to pay special attention and support for development of Africa. ? Key role of Civil society and NGO's was recognised in promoting partnership among business, Governments and society. Many partnerships were announced during the Summit.

Specifically, Johannesburg outlined the following key commitments, targets and time tables: 1. Poverty Reduction 2. Water and Sanitation 3. Sustainable Production and Consumption 4. Energy 5. Chemicals 6. Management of Natural Resource Base 7. Corporate Responsibility 8. Health 9. Sustainable Development of Small Island Developing States 10. Sustainable Development for Africa II. Introduction Ozone depletion is another global problem that attracted the attention in 1980's. Ozone layer in the stratosphere forms a shield for earth against harmful ultraviolet radiation (UV-B) from outer space.

Ozone is a colourless gas. Depletion of ozone results in the formation of holes in its shield. UV-B arising from sun would reach the earth if there are ozone holes. Harmful Effects The sun emits light rays of varying wavelengths. These rays have varying effects on earth's surface, on its living beings, on its ecosystem. The shorter the wavelength of rays, more damage these can do to plants and animals. Ozone layer/shield as mentioned above acts as a barrier to UV; without this shield, the ecological balance of earth would change, and life would be paralysed.

Though most of the plants and animals have some kind of protective mechanism from UV, a longer exposure to these rays result in their penetration to lower layers of body. This leads to skin cancer and damage to eyes in human beings. In plants, the process of photosynthesis – the process by which plants manufacture their food – is effected. The Issue The first of recent conventions on Environmental issues was the convention on ozone layer protection. Vienna convention as it is called, was held in Vienna in

1985. This was followed by Montreal Protocol. (1987) on substances that deplete ozone layer.

It was signed by 24 countries and by 1988 signatories rose to 35. In 1990 delegates from 75 countries met in London to sign an accord that strengthened the provisions of Montreal Protocol. The Ozone Depleting Substances It was in 1974 that Mario Molina and Sherwood Rowland of University of California found that chlorofluorocarbons (CFCs) destroy the ozone in the stratosphere. CFCs are inert substances and can remain intact for years. CFCs rise through atmosphere to reach upper layer – the stratosphere where they cause ozone depletion. CFCs are a whole family of chemicals and contain chlorine and fluorine.

The most common are CFC11, CFC12, CFC22, and CFC113. CFCs are broken down by solar radiation releasing their chlorine atoms which in turn break ozone. The chlorine atoms remain as chlorine even after this reaction. Ozone Hole Ozone hole was first discovered by British Antarctic Survey in 1983 over Antarctica. It was found that levels of ozone were dropping very fast, though a small percentage was being replenished during fall season. The Montreal Protocol The discovery of ozone hole became a matter of great concern because trade and industrial interests of many countries were involved.

European and Japanese were afraid that if there would be a total ban on the use of CFCs, their refrigeration industry would suffer but Americans were now keen for elimination of CFCs and other ozone depleting substances, probably they had developed some substitutes for CFCs. Finally a solution was found when in 1987, twenty four countries and later by 1990 most of the

nations signed an agreement, the Montreal Protocol, committing themselves to phasing out the production and use of ozone depleting substances mainly CFCs.

The agreement stipulated freeze on CFCs production to 1986 level by 1989 and 50% reduction by 1998. The developing countries were given 10 years grace period over the deadline of the industrial countries. Controlled Substances As of 2001, Montreal Protocol controls 96 chemicals. Some of these are below: Halocarbons, notably chlorofluorocarbons (CFCs) and halons, CFCs, discovered in 1928, were considered wonder gases because they are long-lived, non-toxic, non-corrosive, and non-flammable.

Carbon Tetrachloride is used as a solvent and takes 42 years to break down in the atmosphere. Methyl chloroform (1, 1, 1-trichloroethane) is also used as a solvent and takes 5. 4 years to break down. Hydrobromofluorocarbons (HBFCs) are not widely used, but they have been included under the protocol to prevent any new uses. Hydrochlorofluorocarbons (HCFCs) were developed as the first major replacement for CFCs. Methyl bromide (CH_3Br) is used as a fumigant for high-value crops, pest control, and quarantine treatment of agricultural commodities awaiting export.

Bromochloromethane (BCM), a new ozone depleting substance sought to be introduced into the market by some companies in 1998. Montreal Protocol Amended Obviously a lot needed to be done to change the protocol. Initially, India and China did not sign the Montreal Protocol. Indian teams recall the enormous hostility they faced from the existing members when they first raised the issue of modifications of the protocol. Not Satisfied But Friends of

the Earth (FOE), an international environmental pressure group, remains very critical of these measures which it finds inadequate and weak.

According to FOE, the cuts are not deep or rapid enough as the amount of CFCs produced before the final phase-out would be enough to increase the peak chlorine load in the atmosphere by another 50 per cent and would greatly increase the risk of severe ozone depletion also in the Arctic. The Antarctic ozone hole would not get a chance to heal and would remain until at least 2080 and the chlorine levels would remain above four parts per billion (ppb), exposing the world to an extended period of severe ozone loss.

Implementation Problems

New Timetable The post-London timetable states that CFCs are to be totally phased out by 2000 by the developed countries and by 2010 by developing countries. Halons have also been included now and have the same timetable as CFCs. Two new chemicals, carbon tetrachloride and methyl chloroform, used primarily as solvents in metal cleaning industry, have been included with a phase-out schedule by 2000. Both these synthetic compounds were found responsible for releasing ozone depleting chlorine in the atmosphere.

Alternatives

A major impetus for sealing the ozone hole has come through the development of alternative chemicals and products which could substitute CFC use. The alternatives have mainly been developed by the same chemical companies which earlier manufactured CFCs. DuPont, for instance, which makes a quarter of the world's CFCs, is now also the world's largest producer of alternative chemicals. The British firm, ICI, is running only a few

paces behind. High Costs The alternative chemicals are expected to cost three to five times as much as CFCs. For instance, while CFC refrigerants cost UK ? per kg, HFC 134a, its proposed replacement, will cost around UK ? 30 per kg. Refrigerant substitutes are the most expensive. ' New Scientist' reports that the extra cost per kg. of chemicals used as substitutes will be six to 15 times higher for domestic refrigeration and automobile air conditioning as for other CFC applications. DuPont estimates that it will cost the whole chemical industry USA \$ 4 billion over the next 10 years to replace CFCs with safer compounds. It also estimates that equipment worth over US \$ 385 billion will soon become obsolete, most of this is for refrigeration.

In the case of refrigerators, scientists are drawing attention to some cheaper alternatives like using propane or ammonia as coolants. Scientists working in Britain claim that previously refrigerators used large quantities of coolants which makes the flammable propane a dangerous option. The Developing Countries Scenario For the developing countries the main issues remain technology and money. Developing countries like India and China wanted clear assurances for transfer of technology as well as additional finances to cover the costs of the switch-over.

The Americans, consistently blocked efforts on such aid. In May 1990 when the US suggested a contribution of US \$ 20 million for three years to a fund to pay for ozone friendly technology, it made the UNEP's Executive Director, Mostafa Tolba, remark that the " contribution was very little compared with revenues of more than US \$ one billion it has made from taxes on chemicals which deplete the ozone layer". The fund would be largely multilateral with 20 per cent bilateral and regional aid included – against the 10 per cent

preferred by developing countries – and would be financed by developed countries.

The basis of assessment of each country's contribution would be the UN scale of assessments. The European Community which consumes less than the US complained, unsuccessfully, that this was no equitable burden sharing. The meeting did not accept the “polluter pays” principle as a basis for assessment. India and the Ozone Negotiations India was a late entrant into the ozone negotiations, becoming a full time participant only just before the first meeting of parties (MoP-1) in Helsinki in 1989. At an international ozone conference in London in March that year, both India and China took a strong position against joining the Montreal Protocol.

ZA Ansari, India's environment minister, squarely placed the responsibility for ozone depletion and its remedy on the North. He said the North had a moral responsibility to assist developing countries by transferring the technology being developed by their chemical industry for chloroflourocarbon (CFC) substitutes, rather than expecting developing countries to deal directly with the companies on commercial terms. Ansari called for a global fund, provision for which had not yet been made in the Montreal Protocol, to finance such transfer of know-how.

A short period of confusion followed – during which India omitted sending a delegation to the Helsinki conference in May 1989 – before India began consolidating ranks with other developing countries. The alternatives Indian industry has three alternatives for refrigerators and air conditioners, the two sectors which account for the largest share in consumption of ODS. Of these

three alternatives, two are controversial. HCFCs (HCFC-22 and HCFC-141b) are transitional and will have to be phased out by 2040, while HFCs are likely to be targeted in future by the Kyoto Protocol for their greenhouse gas potential.

Domestic consumption of HCFCs will have to be frozen at 2015 levels, leading to a total phase out by 2040. At present, India imports HCFC-141b and does not plan to invest in production capacity, as it is only an interim substitute. However, the country has been producing HCFC-22 since 1989, and currently produces 3, 000 tonnes annually. Considering these drawbacks, some manufacturers have also opted directly for the third alternative of hydrocarbons. Industrialised countries are already eager to advance the deadline on the HCFC freeze.

At the 20th meeting of the open ended working group (OEWG) of parties to the protocol held in Geneva from July 11-13, 2000, the European Commission (EC) wanted to advance this consumption freeze to 2007 levels. Ozone Depletion and Business Business interests are at great stake when negotiations to phase out a product start taking place at international level. CFC phase out has its implications for business, though this industry is smaller in comparison to industries like coal and oil that are related to climate change.

It is a well known fact that CFC industry is in the hands of few companies like DuPont and ICI unlike those related to carbon emission and climate change. Yet it is usually seen that the companies involved in the business of concerned product(s) would try to see that phasing out is delayed. In case of

CFC, since couple of major companies that manufactured CFC could come up with the substitute, it was easier for these companies to agree to phase out the product, thus supporting the Montreal Protocol for control of ODS.

DuPont had developed a substitute, therefore it was of strategic interest for this company to favour the Montreal Protocol.

This case indicates that international environmental agreements require a strong involvement of affected industry. In case of CFC the number of interested industries were few and this made it easier to reach an international agreement for phase-out, unlike in the case where large number of industries are involved as mentioned above in case of large number of industries vis-a-vis climate change. NGOs Participation in Montreal Protocol and the Case of Green freeze Refrigerator Ozone depletion was the first 'technical' and 'global' issue which non-governmental organisations (NGOs) addressed.

They were not involved in the negotiations from the start. However, in the early days, scientists played a more activist role than other activists.

According to US ozone negotiator Richard Benedick, the differences in public sensitivity to warnings concerning the ozone layer in the US and Europe were related to the US preeminence in stratospheric sciences, given the sizeable resources allotted to institutions such as the National Aeronautics and Space Administration (NASA).

According, to Benedick, a major by-product of the ozone negotiations was the development of closer relations among separate environmental groups around the world. US based Ozone Action, have played a role in raising

awareness among people. Very few developing country NGOs have been actively involved in the ozone negotiations. III. Introduction Environmental problems like air, water and land pollution or municipal waste disposal exist in every country. The nations have identified the causes for these problems and would continue to deal with them depending upon how severe these are and how serious is commitment for their abatement.

A detailed discussion on these issues follows in subsequent chapters. Two global environmental problems are: i. Global Warming ii. Ozone Depletion In general, developing countries are more concerned with short-term problems of water resources, air pollution, land degradation, deforestation, etc. The developed countries, on the other hand, are taking more interest in global environmental issues like global warming and ozone depletion. Global Warming* Global warming means gradual increase in world temperatures caused by greenhouse gases (GHGs).

The main greenhouse gas is carbon dioxide (CO₂); others are nitrous oxide, CFCs (chlorofluorocarbons), methane and some organochloride compounds like perfluorocarbons (PFCs) and sulphuric fluoride. GHGs come from various sources, mostly from burning of fossil fuels. These gases trap the sun's rays in the earth's atmosphere causing the temperature to rise resulting in what is known as greenhouse effect or global warming. The Intergovernmental Panel on Climate Change (IPCC) has estimated that earth's temperature will rise from 1-3 degrees C in the next few decades.

It is believed that global warming is leading to extreme weather changes. Hurricanes may be the result of such a change. The Insurance Companies in

industrialised countries have stepped in to show their concern as it may be noted that a single hurricane in USA costs 50 billion dollars to global Insurance Companies. In view of the serious effects of global warming and subsequent change in climate, Rio conference in the discussion on climate change pledged to stabilise GHGs emissions at 1990 level by end of 20th century. Effects of Global Warming

It is the domain of scientists to predict the effects of greenhouse gases. They do it by constructing computer models to assess climate changes. Reliability of conclusions from these models can be questioned and thus the entire theory on climate change due to global warming may not be valid. However, scientists agree that: (i) actual warming has been taking place during the last 100 years; (ii) warming would further raise the temperature of earth by 3-50C if increase in CO₂ doubles; (iii) if warming continues, coastal areas would see a rise in sea level.

If temperature rises further by 3-50C, sea levels may rise by 0. 5 ft. to 5. 0 ft. because of melting of mountain glaciers and expansion of oceans. This would result in islands like Maldives getting submerged and many coastal cities getting flooded, forcing the people to leave their original homes. They would be environmental refugees looking for new habitats. Not only rising water levels but there would be other changes due to global warming. These include hot summers for many parts of world which would mean more consumption of electricity.

It would also affect agricultural production and ecological balance. How to Combat Global Warming At the Earth Summit held at Rio de Janeiro (1992)

153 nations signed the convention on climate change and committed themselves to reduce emissions of CO₂ and other GHGs. Thus there is already agreement among nations that global warming is a serious problem and rather than to wait and watch attitude, steps may be taken towards reducing consumption of fossil fuels by finding out alternative sources of renewable energy, better energy management system and to reverse deforestation.

It is a documented fact that burning coal produces twice as much CO₂ per unit of heat as natural gas. It is therefore, important to control CO₂ production from burning of coal which can be possible by use of alternative source of energy like solar and wind power. USA with 6% of world population contributes 25% of world CO₂ emissions; it has therefore, a greater responsibility in reducing this gas and to evolve new energy strategies. Following steps have been suggested by experts; 1) Cleaning up coal for which technology exists.

This can lead to lesser pollution. Also, conversion of coal to gas is possible. This would further reduce pollution. 2) More use of natural gas than coal because natural gas contains only half the carbon of coal and no sulphur. 3) Renewable sources of energy would ultimately tackle the problem of CO₂ emission and pollution. Wind power and solar energy are obvious choices. But there are other renewable sources like photo voltaic (photo voltaics convert sunlight directly into electricity). These sources produce little or no pollution and involve no safety risks.) Manufacturing fuel efficient vehicles is another step. 5) Deforestation Reversal. This is a major step to reduce CO₂ concentration. It is possible to reclaim more land to plant more trees but

requires help from social, political and financial institutions. Climate Change After the Rio Summit, climate negotiators met in Geneva in December 1992, to negotiate schedules for future meetings. It was decided that the working group on financial, procedural, institutional and legal matters would meet in March 1993, in time to send a report to a GEF meeting in Beijing.

The Intergovernmental Negotiation Committee (INC) met six times after the Rio Summit to prepare for the first conference of parties (CoP1), and completed its work by February 1995. By the end of March 1995, 127 countries and the EU had ratified the climate convention. Saudi Arabia, which was yet to sign the convention, and other members of the OPEC, who feared that a stronger convention would mean carbon emission cuts and taxes on oil consumption, managed to delay substantive work of the INC until August 1993. Hunt for Cheap Options

After the EU decision in 1990 to stabilise carbon dioxide emissions at 1990 levels by the year 2000, industrialised countries went shopping for the cheapest options for carrying out their reductions. This was when the Norwegian Government first introduced the idea of joint implementation (JI), at INC-2, in June 1991. The idea was discussed in detail during the eighth, ninth and tenth INCs. COP-1, Berlin Three issues were on the CoP 1 agenda adequacy of commitments by industrialised countries to reduce carbon emissions under the convention, the financial mechanism, and criteria for JI.

In the sidelines, environmentalists and the oil and coal lobby argued over whether the threat from climate change was big enough to demand action. Though most people came to the conference expecting little to happen, for

once in the recent history of climate meetings, environmentalists declared CoP 1 satisfactory, while the oil and coal lobby called it a disaster. Kyoto Protocol CoP 2 decided to hold a conference, CoP 3 in Kyoto in December 1997 to finalise a protocol on GHG emission.

At Kyoto conference, US declared that they would stabilise US emission to 1990 levels by 2010 whereas EU, G77 and China, demanded reduction by 15% below 1990 level. USA expected this response and came prepared with a variety of market-based remission trading mechanisms that would help it to take the levels below 1990 levels. These mechanisms were included in Kyoto Protocol. Finally, Kyoto was a big success for US, and a bargain for USA in which trading mechanisms were accepted by other groups. Trading of emissions between nations got into protocol in the last minute. USA signed the Protocol.

POST KYOTO Kyoto Accord on Global Warming put in Deep Freeze* Forget that scientists have been warning about the growing levels of CO₂ on the planet. Forget the clamour of environmentalists. Forget that companies like DuPont have already reduced their emissions of greenhouse gases by 50 per cent, and intend to reduce them further. Forget that a number of auto manufacturers are investing in R to manufacture low pollution cars. Forget that several other companies like IBM, United Technologies are committed to reducing their greenhouse gas emissions by a quarter in the next 10 years. They must all be guided by some filthy profit greed.) Forget that 38 industrialised countries have, under the Kyoto accord, agreed to reduce their emissions of greenhouse gases by 2012 to 5.2 per cent below the levels in 1990. The President of the United States says CO₂ is not a pollutant. George

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W Bush has apologised for having named the gas a pollutant in the past. He has withdrawn his proposal of capping the CO₂ emitted by power utilities using coal. He has denounced the Kyoto accord, and announced that the US has no intention to comply with the treaty.