International treaties & Global initiatives related to Environment

Environment and Climate Change (CE-12101)

Department of Civil Engineering

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Introduction

- To keep the biodiversity and environment in a healthy condition, efforts are being made at the international and national levels to maintain the equilibrium and resilience characteristics of the ecosystems with the objective to make them sustainable.
- In fact, conventions and conferences on environment have now assumed an important place in international diplomacy.
- The two most important milestones in this direction have been (i) the Stockholm Conference, 1972, and (ii) The Rio-de—janeiro or Earth Summit, 1992.
- Out of these, the Earth Summit or Rio Conference (Brazil) was a big success, as virtually all the participating countries agreed to cooperate more closely in tackling the global environmental issues and problems.

EARTH SUMMIT

- The United Nations sponsored Earth Summit was held in Rio de Janeiro in 1992 from 3rd to 14th June.
- In this summit, leaders of 100 nations, over 10,000 delegates from over 160 countries, and nearly 9000 journalists participated.
- The focus of the conference was the Agenda 21, the problems of 21st Century and the treaties, biodiversity and climatic change.
- The summit ended with the declaration of 27 principles which came to be known as Agenda 21 (the Agenda for 21“ century). Maurice F. Strong, a Canadian and Secretary General of the UNCED, summarized in his conference address.

The people of our planet, especially our youth and the generation which follow them, will hold us accountable for what we do or fail to do at the Earth Summit in Rio. Earth is the only home we have, its fate is literally in our hands .... The most important ground we must arrive at Rio is the understanding that we are all in this together.

The Five Earth Summit Agreements

1. **Climate Change Framework**: This legally binding agreement is a first-ever attempt to evaluate and address global warming on an International scale. This was signed in 1992 by 154 nations including Canada and USA.
2. Biological Diversity: This legally binding agreement is the first international attempt to protect the Earth's biodiversity. Out of 161 signatories, the United States, Vietnam, Singapore and Kribati (a Pacific Island nation) refused to sign the original treaty.
3. Management, Conservation, and Sustainable Development of all Types of Forests: This non—binding agreement guides world forestry practices toward a more sustainable future of forest yields and diversity.
4. The Earth Charter: This is a non—binding statement of 27 environmental and economic principles. They establish an ethical basis for a sustainable human—earth relationship. An important emphasis is inclusion of environmental costs in economic assessments. Improvisation and utilization of air, soil, water and ecosystems sometimes is mistaken for progress.
5. Agenda 21 (Sustainable Development): This non—binding action program is an 800—page guide for all nations into the 21st Century. The idea of 'sustainable development' as proposed in a business proposal of 'sustainable growth' is examined in Agenda 21.

Agenda 21

- Agenda 21 covers many key topics: energy conservation and efficiency to reduce consumption and related pollution, climate change, stratospheric ozone depletion, trans—boundary air—pollution, ocean and water resource protection; soil losses, and increasing desertification; deforestation, regulations for safely handling radioactive waste and disposal; hazardous chemicals exports for disposal in developing countries, and disparities of wealth and the plague of poverty.
- Agenda 21 also discusses the difficult question of financing sustainable development.
- Developing countries are asking the developed nations to spend 0.7% of their gross domestic product about $125 billion per year to assist them in implementing the Earth Charter and Agenda 21.

THE MONTREAL PROTOCOL

- The Montreal Protocol was about the substances that deplete the ozone layer of the stratosphere. It is an international treaty, designed to protect the ozone layer, by phasing out the production of numerous substances believed to be responsible for ozone depletion. The Treaty was opened for signature on 16th September, 1987 and entered into force on 1st January, 1989.
- Its first meeting was held at Helsinki in May, 1989. Since then, it has undergone seven revisions in London (1990), Nairobi (1991), Copenhagen (1992), Bangkok (1993), Vienna (1995), Montreal (1997), and Beijing (1999).
- It was believed that if this international agreement is adhered to, the ozone layer would recover by 2005. Initially, the target was set to remove harmful chemicals like the CFCs by 50 per cent by 1998.

KYOTO PROTOCOL ON CLIMATIC CHANGE

- This is a protocol to the 1992 UN Framework Convention on Climatic Change (UNFCCC). It was adopted in the conference at Kyoto (Japan) in 1997.
- Kyoto Protocol is a voluntary treaty signed by 141 countries including the European Union, Japan, and Canada. According to this Protocol, the developed industrialized countries are required to reduce emission of greenhouse gases by an average of 5.2 per cent below 1990 levels by 2012.
- The Intergovernmental Panel on Climatic Change (IPCC) has predicted an average global rise in temperature of Earth from 1.4°C to 5.8°C between 1990 and 2100. If successfully implemented, the Kyoto Protocol will reduce that increase by somewhere 0.02°C and 0.28°C by the year 2050 (Nature, October 2003).

KYOTO PROTOCOL ON CLIMATIC CHANGE

- The six greenhouse gases included under Kyoto Protocol are:
- Carbon—dioxide, (ii) Methane (CH4), (iii) Nitrous-oxide (N20), (iv) Per-Fluorocarbons (PFCs), (V) Hydro—Fluorocarbons (HFCs), and (vi) Sulphur Hexafluoride(SF6).
- There were two main flaws in the Kyoto Protocol:
- (i) The largest polluters of the world, i.e. USA which accounts for one third of the total GHG emission boycotted it.
- (ii) Although India and China (two emerging Asian economic powers) signed it, they were not required to cut their share of emissions by 2012. The argument being that they should not pay the penalty for being late industrialisers (India and China account for 14 per cent of CHG emissions). Russia ratified the treaty, it accounted for 17 per cent of the emissions. The Kyoto Protocol had to be ratified by countries accounting for at least 55 per cent of the global emissions in 1990, to go into effect. Hence, Russia's decision on the treaty was very crucial.

THE MONTREAL ACTION PLAN

- The Montreal Action Plan was one of the greatest intergovernmental conference on climatic change ever held.
- It took place at Montreal (Canada) in December 2005.
- The event marked the entry into force of the Kyoto Protocol.
- The Montreal Action Plan is an agreement hammered out at the end of the Conference to extend the life of the Kyoto Protocol beyond 2012 expiration date, and to negotiate deeper cuts in greenhouse gas emission.

BALI SUMMIT

- The Bali Summit was held on 1st December 2007 at Nausa Dua (Bali, Indonesia). Agreement on a timeline and structured negotiation on the post-2012 framework was achieved with adoption of the Bali Action plan.
- Under the Convention, was established as a new subsidiary to conduct the negotiation aimed at urgently enhancing the implementation of the Convention up and beyond 2012.

POZNAN SUMMIT

- The Poznan Summit (Poland) was held in December 2008 In this summit the delegates agreed on principles for financing of a fund to help the poorest nations to cope up with the effects of climate change.
- They approved a mechanism to incorporate forest protection into the efforts of the international community to combat climatic change.

COPENHAGEN SUMMIT

- The convention on climatic change was held at the Bella Centre of Copenhagen in December 2009.
- This conference was attended by 150 global leaders, ministers and officials from 192 countries.
- The overall goal of the Summit was to establish an ambitious global climate agreement from 2012 when the first commitment period under the Kyoto Protocol expires. In this Summit, a 'political accord' was negotiated by approximately 25 parties including USA and China,
- The accord was notable in that it referred to a collective commitment by developed countries for a few additional resources including forestry. The Summit emphasized on mobilization of financial resources for supporting reforestation efforts of the developing countries.

CANCUN SUMMIT

- The 2010 United Nations Climate Change Conference was held at Cancun (Mexico) in December 2010. The conference is officially referred to as the 16th Session of the Conference of the Parties to the United Nations Framework on Climate Change (UNFCCC).
- In this conference, the Mexican Government committed to ensure that the participants mobilization and energy consumption during the conference result in the smallest environmental impact. A large amount of energy used during the conference came from renewable resources. A residual waste management program was also discussed during the conference. The main points of the Cancun Agreement was signed by 193 nations. Bolivia, however, refused to sign.

Biodiversity Convention, Nagoya 2010

- The Biodiversity Convention was opened for signature at the Earth Summit in Rio de Janeiro and entered into force on 29th December, 1993.
- The year 2010 was declared by the UNO as the International Year of Biodiversity. The Biodiversity Convention was held at Nagoya (Japan) in December 2010.
- The main objectives of the convention were: Conservation of biodiversity, (ii) Sustainable use of components, and (iii) Fair and equitable sharing of benefits arising from genetic resources.
- The Convention covers all ecosystems, species and genetic resources. It links traditional conservation efforts to the economic goal of using biological resources sustainably. Importantly, the Convention is legally binding and countries that joined it are obliged to implement its provisions.
- There are 193 parties of this Convention, but Andorra, and the states with limited recognition including the United States are non-parties to this Convention. The US has signed but not ratified the treaty.

CARTAGENA PROTOCOL

- The Cartagena Protocol on Bio—safety is an international treaty, governing the movements of Living Modified Organisms (LMOs) resulting from modern biotechnology from one country to another.
- It was adopted on 29th January, 2000 and entered into force on 11th September, 2003. India acceded to the Biodiversity Protocol on 17th January, 2003. The protocol was signed by 157 countries.
- The main objective of the protocol is to ensure an adequate level of production in the field of safer transfer, handling of Living Modified Organisms (LMOs) resulting from modern biotechnology that may have adverse effect on the conservation and sustainable use of biological diversity taking into account risk to health.
- The Biosafety Protocol makes clear that products from new technologies must be based on the precautionary principle and allow developing nations to balance public health against economic benefits. The Protocol promotes bio-safety by establishing rules and procedures for the safe transfer, handling and use of Living Modified Organisms (LMOs). Parties to the Protocol must ensure that Living Modified Organisms (LMOs) are handled, packaged and transported under conditions of safety.
- Furthermore, the shipment of Living Modified Organisms (LMOs) subject to trans—boundary movement must be accompanied by appropriate documentation, specifying among other things, identity of Living Modified Organisms (LMOs) and contact of further information.

NAGOYA PROTOCOL

- The 10th Conference of parties to the Convention on Biological Diversity was held at Nagoya in October, 2010. Delegates from more than 100 countries agreed on Nagoya Protocol on Access to Genetic Resources and fair and equitable sharing of benefits arising from their utilization.

ROTTERDAM CONVENTION

- This Convention was signed on 10th September, 1998 at Rotterdam. It is a multilateral treaty on Hazardous Chemicals and Pesticides in International trade.
- The Convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labelling and directions on safe handling and inform purchasers of any known restrictions or bans.
- There are 73 signatories of this convention.

STOCKHOLM CONVENTION

- This Convention was about the persistent organic pollutants. This treaty was signed on 23rd May, 2001 at Stockholm. The main objective of the Convention was to restrict the production and use of persistent organic pollutants. Parties to this convention have agreed to a process by which persistent toxic compounds can be reviewed and added to the Convention, if they meet certain criteria for persistence and trans—boundary threat.
- Initially, there were 12 distinct chemicals listed in three categories. But subsequently, the use of DDT to control malaria and curtail inadvertent production of dioxins and furans-Adrin, Chlordane, Dieldring, Heptachlor, Hexachlora, Mirex, etc. were also added.

BASEL CONVENTION

- The Basel Convention was held to control the trans—boundary movement of hazardous wastes.
- It mainly focused on the transfer of hazardous wastes from the developing countries. The Convention was opened for signature on 22nd March, 1989 and it entered 175 parties to the Convention.

ANTARCTIC TREATY

- The Antarctic Treaty and related agreement, collectively called Antarctic Treaty System (ATS) regulate international relations with respect to Antarctica, the earth's only continent without a native population.
- For the purpose of treaty system, Antarctica is defined as all of land and ice—shelves south of 60°S latitude.
- The Treaty entering into force in 1961 and eventually signed by 45 countries, set aside Antarctica as a scientific reserve, establishes freedom of scientific investigation and bans military activity on that continent.
- The treaty was the first arms control agreement established during the Cold War. The Antarctic Treaty Secretariat Headquarters is located in Buenos Aires (Argentina).

International Protocols and Treaties

MEAs	Year	Entry into Force	Date of Ratification	Issues covered
Ramsar Convention on Wetlands	1971	21.12.1975	11.02.1982	Conservation and wise use of wetlands, primarily as habitats for water birds.
Biodiversity Conservation	1972	17.12.1975	4.11.1977	Protection and conservation of natural and cultural heritage.
Convention on International Trade of Wild animals	1973	1.7.1975	20.7.1976	International Trade in Endangered Species of wild-fauna and flora
Bonn Convention on Migratory Species of Wild animals	1979	1.11.1983	1.11.1983	Conservation, management and wise use of migratory species of wild animals and their habitat
Vienna Convention for the protection of Ozone Layer	1985	22.9.1988	18.3.1991	Protection of ozone layer.
Montreal Protocol	1987	1.1.1989	19.6.1992	Protection of atmospheric ozone
Basel Convention	1989	5.5.1992	24.6.1992	Regulation of trans-boundary movements of hazardous waste and their disposal.

International Protocols and Treaties

MEAs	Year	Entry into Force	Date of Ratification	Issues covered
UN Framework Convention on Climatic Change (UNFCCC)	1992	21.3.1994	1.11.1993	Change in Earth Climate System due to anthropogenic interference.
Kyoto Protocol (UNFCCC)	1997	16.2.2005	26.8.2002	Quantified emission limitation and reduction commitments for Annex parties.
Convention on Biological Diversity (CBD)	1992	29.12.1993	18.2.1994	Biological Diversity and biological resources.
Cartegena Protocol Bio-safety to the CBD	2000	11.9.2003	11.9.2003	Regulation of trans-boundary movement, transit, handling and use of LMOs.
United Nations Convention to Combat Desertification	1994	26.12.1996	17.12.1996	Combating desertification and to mitigate the effects of droughts, particularly in Africa.
Rotterdam Convention	1998	24.2.2004	24.5.2005	To promote shared responsibility among the parties in the co-operative efforts among international trade of certain hazardous chemicals in order to protect human health and the environment.
Stockholm Convention	2001	17.5.2004	13.1.2006	Protect human health and environment from persistent organic pollutants.
Hyderabad Convention on Persistent Organic Pollutant	2001	17.5.2004	13.1.2006	To conserve marine coastal ecosystems

ENVIRONMENTAL LAWS IN INDIA

India has significant provisions in its constitution for having enacted over 200 laws for the protection of environment. Some of the important environmental laws of India have been described briefly below:

1. The Wildlife (Protection) Act of 1972.
2. The Water (Prevention and Control of Pollution) Act of 1974.
3. The Forest (Conservation) Act of 1980.
4. The Air (Prevention and Control of Pollution) Act of 1981.
5. The Environment (Protection) Act of 1986.
6. The National Environmental Tribunal Act of 1995.

The Wildlife Act, 1972

The Wildlife (Protection) Act, 1972 provides the following:

i. Protection of specified plants.

ii. Prohibition of hunting of wild animals.

iii. Declaration and Management of sanctuaries, national parks, and closed areas.

iv. Constitution of Central Zoo Authority.

v. Granting license for hunting of animals for the purpose of education, scientific research, and scientific management.

vi. Granting of license (permits) for picking, uprooting, etc. of specified plants for the purpose of education, and scientific research.

vii. Granting of license (permit) for trade and commerce in wild animals, and animal products.

viii. Granting of license (permits) for cultivation of specified but otherwise prohibited plants.

ix. Protecting the rights of Scheduled Tribes Population.

x. Penalties for violation of various provisions of the Act.

The Wildlife Act, 1972

Violation of various sections of the Act do attract penalties of varying degree. For instance, if a person violates any conditions laid down in his license (permit) granted to him under Section 38J, he/she is liable to:

(i) Imprisonment up to three months and/or a fine up to Rs. 25,000;

(ii) Cancellation of his/her license granted for the purpose; and

(iii) Cancellation of his/her Arms license.

The penalties in the violation of some the clauses of the Act may give a punishment of six months and cash punishment up to Rs. 10,000.

The species of wild animals, the degree of protection and the prescribed penalties for the violetears

Schedule	Species	Level of Protection and penalties
I	Black-Buck, Great Indian Bustard, Lion-tailed Macaque. Narcondam Hornbill, Nicobar Mega-pode Rhinoceros, etc.	Poaching, smuggling and illegal trade prohibited. Maximum penalties
II	Bengal Porcupine, Dhole, Flying Squirrel, Himalayan Brown Bear, King Cobra, Rhesus Macaque,	Poaching, smuggling and illegal trade prohibited Maximum penalties
III	Barking Deer, Coral, Hyaena, Hogdeer, Nilgai, Sponges, etc.	Protected but relatively less penalties
IV	Mangoose, Vultures, etc.	Protected but penalties arc relatively low
V	for example, Common Crow, Flying Fox, and Mice, Rats,	These species are ‘vermin’ which can be hunted,
VI	Beddomes cycad. Blue Vanda, Kuth, Ladies Slipper Pitcher Plant Red Vanda, etc.	Cultivation, collection, extraction, trade, etc. of plants and their derivatives are prohibited.

Water (Prevention and Control of Pollution) Act, 1974

- The main objectives of the Water Act 1974 is to make judicious use of water resources and to control water pollution. The Act also empowers the Central Government to establish Central Water Pollution Control Board and the State Governments to constitute their own Water Pollution Control Boards in their respective states. The main functions and powers of these pollution control boards are:
- (i) To promote cleanliness of streams and wells.
- (ii) To advise central or state governments on matters relating to water pollution.
- (iii) To promote and sponsor research with a view to controlling water pollution.
- (iv) To train personnel for such purposes.
- (V) To conduct survey of any area with a View to obtaining any information regarding water pollution.
- (vi) To take samples of effluents.

Water (Prevention and Control of Pollution) Act, 1974

- (vii) To enter into any premises for the purposes of inspecting any documents, register, records of any plant/unit suspected to be source of pollution.
- (viii) To prohibit the use of any stream or well for disposing the effluents.
- (ix) To grant permission to new outlets for discharge.
- (x) To execute any work which the polluter may not have implemented and to charge the cost of the same from the polluter.
- (xi) To undertake the emergency measures in case of any accidental pollution of water.
- (xii) To approach the courts, if necessary, to prevent wells and from apprehensive pollution; and
- (xiii) To order: (a) closure of any industry, and (b) stop supply of electricity to the polluting industry. Violation of the above clauses of the Act the violator may be punished for six years of rigorous imprisonment

Forest (Conservation) Act, 1980

- Under this Act, it is obligatory for the State governments to obtain prior permission for:
- (i) Any de-reservation of forests, and
- (ii) Use of any forest land for non—forest purposes.
- The violation attracts an imprisonment up to15 days.
- The responsibility in case of government department lies with the Head of the Department.

Air (Prevention and Control of Pollution) Act, 1981

- The Air Act was enacted on 29th March 1981. The main objective of this Act was the prevention, control and abatement of air pollution through the Air Pollution Control Boards, constituted at the National Level. The powers and functions of the Board are given below:
- (i) To declare any area as air pollution control area.
- (ii) To fix up of the emission levels from automobiles.
- (iii) Location of industry from the point of view of pollution.
- (iv) To approach to the court against any polluter.
- (v) To inspect any factory premises to assess pollution being caused by it.
- (vi) To obtain any information from industry with regard to pollution.
- (vii) To take samples from the concerned unit.
- Violation of various Sections of the Act attract punishment of varying degree which may be imprisonment up to three months and/or a fine up to Rs. 10,000.

Environmental Protection Act, 1982

- The main objectives of the Environmental Protect Act, 1982 are to provide for protection and improvement of environment. The Act empowers the Central Government to take all such measures as to deem necessary or expedient for achieving the chief objectives of the Act. The main points of the Act are given below:
- (i) To plan and execute a nation—wide program for prevention and control of environmental pollution.
- (ii) To lay down standards for the quality of environment in its various aspects.
- (iii) To lay down standards for emission and discharge of pollutants.
- (iv) To restrict the areas in which industrial process could be carried out.
- (v) To lay down procedures and safeguards for the prevention of accidents that may cause environmental pollution and to take effective remedial measures expeditiously.
- (vi) To lay down procedures and safeguards for handling of hazardous substance.
- (vii) To examine all such manufacturing processes, materials and substances that are likely to cause pollution.
- (viii) To carry out research and sponsor research laboratories for understanding all problems relating to environmental pollution.
- (ix) To inspect any premises, industrial plant, equipment, machinery, etc. and to issue directions necessary for controlling environmental pollution.
- (x) To prepare manuals, codes, guidelines relating to prevention and control of environmental pollution.

Environmental Protection Act, 1982

- The Act also empowers the Central Government:
- (a) To appoint officers for performing various functions,
- (b) To issue directions and to order closure of any industry, if necessary and to stop the supply of electricity and water or any other service to the defaulting unit,
- (c) To prohibit emission of pollutants beyond the prescribed limits,
- (d) To ensure that the hazardous materials are handled in accordance with the prescribed safeguards,
- (e) To take samples of pollutants for examination in the duly certified research laboratories,
- (f) To frame rules regarding all matters concerning environmental pollution.

The National Environment Tribunal Act, 1995

- Under the Act, one could claim the damages for the following:
- (i) Death
- (ii) Permanent, temporary, total/partial disability or other injury or sickness.
- (iii) Loss of wages due to disability.
- (iv) Medical expenses incurred for treatment.
- (v) Damage to property.
- (vi) Expenses incurred by the government in providing relief, aid, and rehabilitation to the affected persons.

The National Environment Tribunal Act, 1995

- (vii) Expenses incurred by the government for any administrative or legal action or to cope with any harm or damage, including environmental degradation and its restoration.
- (viii) Loss to government.
- (ix) Harm to fauna including milch, draught animals and aquatic fauna.
- (x) Harm to flora including aquatic flora, crops, vegetables, trees and orchards.
- (xi) Cost of any damage to environment including pollution of soil, air, water, land and ecosystem.
- (xii) Loss and destruction of any property other than private property.
- (xiii) Loss of business or employment or both.
- (xiv Any other claim arising out of, or connected with, any activity of handling hazardous substance.

Any one who fails to comply with any order made by the Tribunal, is liable to punishment with an imprisonment up to 3 years and/or a fine up to Rs. ten lakh.

BIODIVERSITY ACT, 2002

- Biodiversity Act, 2002 provides for setting up of a National Biodiversity Authority (NBA), State Biodiversity Board (SBB), and Biodiversity Management Committees (BMCs).
- The National Biodiversity Authority was established in Chennai in 2003.
- According to this Act, all foreign nationals/organizations require prior approval of NBA for obtaining biological resources and/or associated knowledge for any use. Indian individuals require approval of NBA for transferring results of research, with respect to any biological resources, to foreign nationals/organizations for commercial purposes.
- Indian industry is required to give prior intimation to the concerned SBBs about obtaining any biological resources for commercial use, and SBB may restrict the activity if it is found to violate the objectives of conservation, sustainable use and benefit sharing.
- However, Indian citizens including (Hakims and Vaids) would have a free access to use biological resources within the country for their own use. The monetary benefits, fees or royalties accruing as a result of approvals by the National Biodiversity Authority are to be deposited in the NBA Funds, which will be used for the conservation of biodiversity.

International Treaties for Climate change

Climate Change (CE-12101)

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Various Environmental Organizations

GOVERNMENT ORGANIZATION:

- Ministry of Environment, Forests & Climate Change. (INDIA)
  - The Ministry of Environment and Forests & Climate Change (MoEFC) is the nodal agency in the administrative structure of the Central Government for **planning, promotion, co-ordination and overseeing** the implementation of India's environmental and forestry policies and programmes.
  - Information on project clearances and rules and regulation related to pollution, environmental protection, wildlife etc. is provided.
  - Users can get to know about actions and reports related to climate change and biodiversity conservation.
  - Information about major initiatives such as Compensatory Afforestation Fund Management
- Central/State Pollution Control Boards/Agencies.
  - The **Central Pollution Control Board** (CPCB) of India is a statutory organization under the Ministry of Environment, Forest and Climate Change (Mo.E.F.C). It was established in 1974 under the Water (Prevention and Control of pollution) Act, 1974. CPCB has its head office in New Delhi, with seven zonal offices and 5 laboratories.
  - It Co-ordinates the activities of the State Pollution Control Boards by providing technical assistance and guidance and also resolves disputes among them

INTER-GOVERNMENTAL ORGANIZATIONS:

- United Nations Environment Programme (UNEP)
  - The **United Nations Environment Programme** (UNEP, **UN Environment**) is a programme of the United Nations that coordinates the organization's environmental activities and assists developing countries in implementing environmentally sound policies and practices.
  - **UNEP** is the global champion for the **environment** with **programmes** focusing on **sustainable development**, **climate, biodiversity** and more.
- IPCC (Intergovernmental Panel on Climate Change) [1988]
- World Bank
  - The World Bank is an international financial institution that provides loans and grants to the governments of poorer countries for the purpose of pursuing capital projects.

INTER-GOVERNMENTAL ORGANIZATIONS:

- International Energy Agency (IEA)
  - The **International Energy Agency** works with countries around the world to shape energy policies for a secure and sustainable future.
- Earth System Governance Project [2009]
  - The Earth System Governance Project is a long-term, interdisciplinary social science research programme originally developed under the auspices of the International Human Dimensions Programme on Global Environmental Change.
  - The Earth System Governance Project aims to contribute to science on the large, complex challenges of governance in an era of rapid and large-scale environmental change.
  - The project seeks to create a better understanding of the role of institutions, organizations and governance mechanisms by which humans regulate their relationship with the natural environment.[1]
  - The project aims to examine problems of the 'global commons', but also local problems from air pollution to the preservation of waters, waste treatment or desertification and soil degradation.

INTER-GOVERNMENTAL ORGANIZATIONS:

- Global Environment Facility [1991]
  - The **Global Environment Facility (GEF)** was established on the eve of the 1992 Rio Earth Summit to help tackle our planet's most pressing environmental problems.
  - The GEF unites 183 countries in partnership with international institutions, civil society organizations (CSOs), and the private sector to address global environmental issues while supporting national sustainable development initiatives.
  - Since 1992, the GEF has provided over $17 billion in grants and mobilized an additional $88 billion in financing for more than 4000 projects in 170 countries.

NON-GOVERNMENT ORGANIZATION (NGO)

- International (e.g. Green Peace, WWF)
  - World Wide Fund for Nature. The World Wide Fund for Nature is an international non-governmental organization founded in 1961, working in the field of wilderness preservation, and the reduction of human impact on the environment. It was formerly named the World Wildlife Fund, which remains its official name in Canada and the United States
  - Greenpeace is a non-governmental environmental organization with offices in over 55 countries and an international coordinating body in Amsterdam, the Netherlands. Greenpeace was founded in 1971 by Irving Stowe and Dorothy Stowe, Canadian and US ex-pat environmental activists.
- **Country Specific (e.g. CSE)**
  - The Centre for Science and Environment (CSE) is a public interest research and advocacy organisation based in New Delhi.
  - CSE researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable.

UN CONFERENCES & PROTOCOLS ON ENVIRONMENT, SUSTAINABLE DEVELOPMENT , CLIMATE CHANGE

United Nations Conference on the Human Environment, Stockholm, 1972

- The **United Nations Conference on the Human Environment** was held in Stockholm, Sweden from June 5–16 in 1972.
- Principles of the Stockholm Declaration:[9]
  1. Human rights must be asserted, apartheid and colonialism condemned
  2. Natural resources must be safeguarded
  3. The Earth's capacity to produce renewable resources must be maintained
  4. Wildlife must be safeguarded
  5. Non-renewable resources must be shared and not exhausted
  6. Pollution must not exceed the environment's capacity to clean itself
  7. Damaging oceanic pollution must be prevented
  8. Development is needed to improve the environment
  9. Developing countries therefore need assistance
  10. Developing countries need reasonable prices for exports to carry out environmental management
  11. Environment policy must not hamper development

United Nations Conference on the Human Environment, Stockholm, 1972

12. Developing countries need money to develop environmental safeguards
13. Integrated development planning is needed
14. Rational planning should resolve conflicts between environment and development
15. Human settlements must be planned to eliminate environmental problems
16. Governments should plan their own appropriate population policies
17. National institutions must plan development of states' natural resources
18. Science and technology must be used to improve the environment
19. Environmental education is essential
20. Environmental research must be promoted, particularly in developing countries
21. States may exploit their resources as they wish but must not endanger others
22. Compensation is due to states thus endangered
23. Each nation must establish its own standards
24. There must be cooperation on international issues
25. International organizations should help to improve the environment
26. Weapons of mass destruction must be eliminated

Vienna Convention, 1985

- The **Vienna Convention for the Protection of the Ozone Layer** is a multilateral environmental agreement signed in 1985 that provided frameworks for international reductions in the production of chlorofluorocarbons due to their contribution to the destruction of the ozone layer, resulting in an increased threat of skin cancer
- International sharing of climate and atmospheric research to promote knowledge of the effects on the ozone layer
- The treaty calls for the adoption of international agencies to assess the harmful effects of depleted ozone and the promotion of policies that regulate the production of harmful substances that influence the ozone layer

Montreal Protocol, 1989

- The **Montreal Protocol** is an international treaty designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion. It was agreed on 16th September 1987, and entered into force on 1st January 1989.
- As a result of the international agreement, the ozone hole in Antarctica is slowly recovering. Climate projections indicate that the ozone layer will return to 1980 levels between 2050 and 2070.

Basel Convention, 1989

- The **Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal**, usually known as the **Basel Convention**, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).
- It does not, however, address the movement of radioactive waste.
- The Convention is also intended to minimize the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist LDCs in environmentally sound management of the hazardous and other wastes they generate.

Geneva Protocol

- It is a treaty prohibiting the use of chemical and biological weapons in international armed conflicts.
- It was signed at Geneva on 17 June 1925 and entered into force on 8 February 1928.
- It was registered in *League of Nations Treaty Series* on 7 September 1929.
- It prohibits the use of "asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices" and "bacteriological methods of warfare".
- This is now understood to be a general prohibition on chemical weapons and biological weapons, but has nothing to say about production, storage or transfer. Later treaties did cover these aspects — the 1972 Biological Weapons Convention (BWC) and the 1993 Chemical Weapons Convention (CWC).

UN Convention on Climate Change, 1992

- The **United Nations Framework Convention on Climate Change** (**UNFCCC**) is an international environmental treaty adopted on 9 May 1992 and opened for signature at the Earth Summit in Rio de Janeiro from 3 to 14 June 1992.
- It then entered into force on 21 March 1994, after a sufficient number of countries had ratified it.
- The UNFCCC objective is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

Biodiversity Convention, Nairobi 1992

- The **Convention on Biological Diversity** (**CBD**), known informally as the **Biodiversity Convention**, is a multilateral treaty.
- The Convention has three main goals including:
  - The conservation of biological diversity (or biodiversity);
  - The sustainable use of its components; and
  - The fair and equitable sharing of benefits arising from genetic resources.
- In other words, its objective is to develop national strategies for the conservation and sustainable use of biological diversity. It is often seen as the key document regarding sustainable development.
- The Convention was opened for signature at the Earth Summit in Rio de Janeiro on 5 June 1992 and entered into force on 29 December 1993.

UN Conference on Environment and Development (UNCED), 1992

- The **United Nations Conference on Environment and Development** (**UNCED**), also known as the **Rio de Janeiro Earth Summit**, the **Rio Summit**, the **Rio Conference**, and the **Earth Summit** (Portuguese: ECO92), was a major United Nations conference held in Rio de Janeiro from 3 to 14 June in 1992
- The issues addressed included:
  - Systematic scrutiny of patterns of production — particularly the production of toxic components, such as lead in gasoline, or poisonous waste including radioactive chemicals
  - Alternative sources of energy to replace the use of fossil fuels which delegates linked to global climate change
  - New reliance on public transportation systems in order to reduce vehicle emissions, congestion in cities and the health problems caused by polluted air and smoke
  - The growing usage and limited supply of water
- An important achievement of the summit was an agreement on the Climate Change Convention which in turn led to the Kyoto Protocol and the Paris Agreement.

Kyoto Protocol, 1992

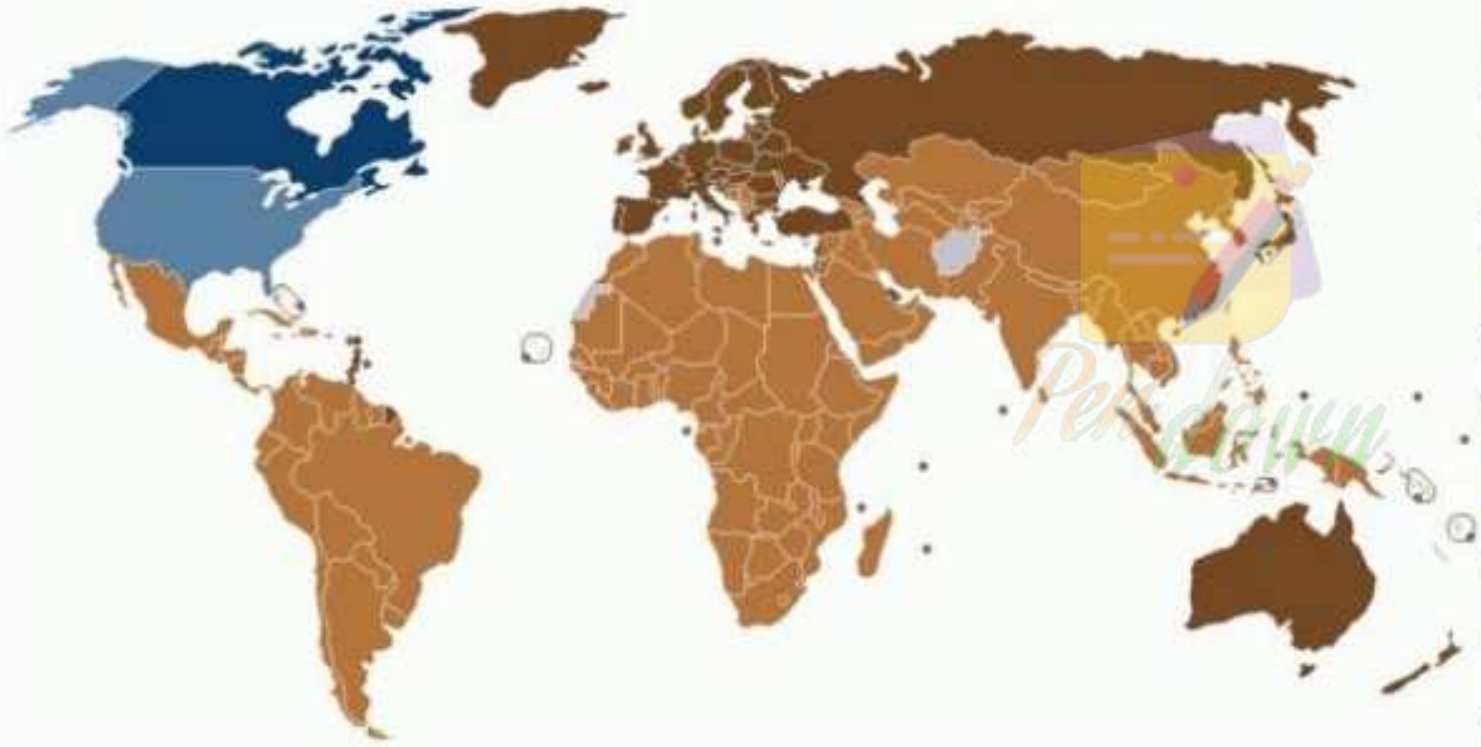
- Kyoto Protocol is a voluntary treaty signed by 141 countries including the European Union, Japan, and Canada.
- According to this Protocol, the developed industrialized countries are required to reduce emission of greenhouse gases by an average of 5.2 per cent below 1990 levels by 2012.
- The Intergovernmental Panel on Climatic Change (IPCC) has predicted an average global rise in temperature of Earth from 1.4°C to 5.8°C between 1990 and 2100. If successfully implemented, the Kyoto Protocol will reduce that increase by somewhere 0.02°C and 0.28°C by the year 2050 (Nature, October 2003).
- The six greenhouse gases included under Kyoto Protocol are:
- (i) Carbon—dioxide, (ii) Methane (CH4), (iii) Nitrous-oxide (N20), (iv) Per-Fluorocarbons (PFCS), (V) Hydro—Fluorocarbons (HFCS), and (vi) Sulphur Hexafluoride(SF6).

Kyoto Protocol, 1992

There were two main flaws in the Kyoto Protocol:

- (i) The largest polluters of the world, i.e. USA which accounts for one third of the total CHG emission boycotted it.
- (ii) Although India and China (two emerging Asian economic powers) signed it, they were not required to cut their share of emissions by 2012. The argument being that they should not pay the penalty for being late industrialisers (India and China account for 14 per cent of CHG emissions).

Kyoto Protocol, 1992



Parties; Annex I & II countries with binding target*

Parties; Developing countries without binding targets

Signatory country with no intention to ratify the treaty, with no binding targets

Countries that have renounced the Protocol, with no binding targets

States not Party to the Protocol

*Russia is the party with no binding targets in the second period, which previously had targets

Fig. 1. Kyoto Protocol participation map (commitment period: 2013-2020) (own elaboration based on Wikisource)

Kyoto Mechanisms: Emissions Trading

- **Emissions trading**, as set out in Article 17 of the Kyoto Protocol, allows countries that have emission units to spare - emissions permitted them but not "used" - to **sell** this excess capacity to countries that are over their targets.
- Thus, a new commodity was created in the form of emission reductions or removals. Since carbon dioxide is the principal greenhouse gas, people speak simply of trading in **carbon**. Carbon is now tracked and traded like any other commodity. This is known as the "**carbon market**."

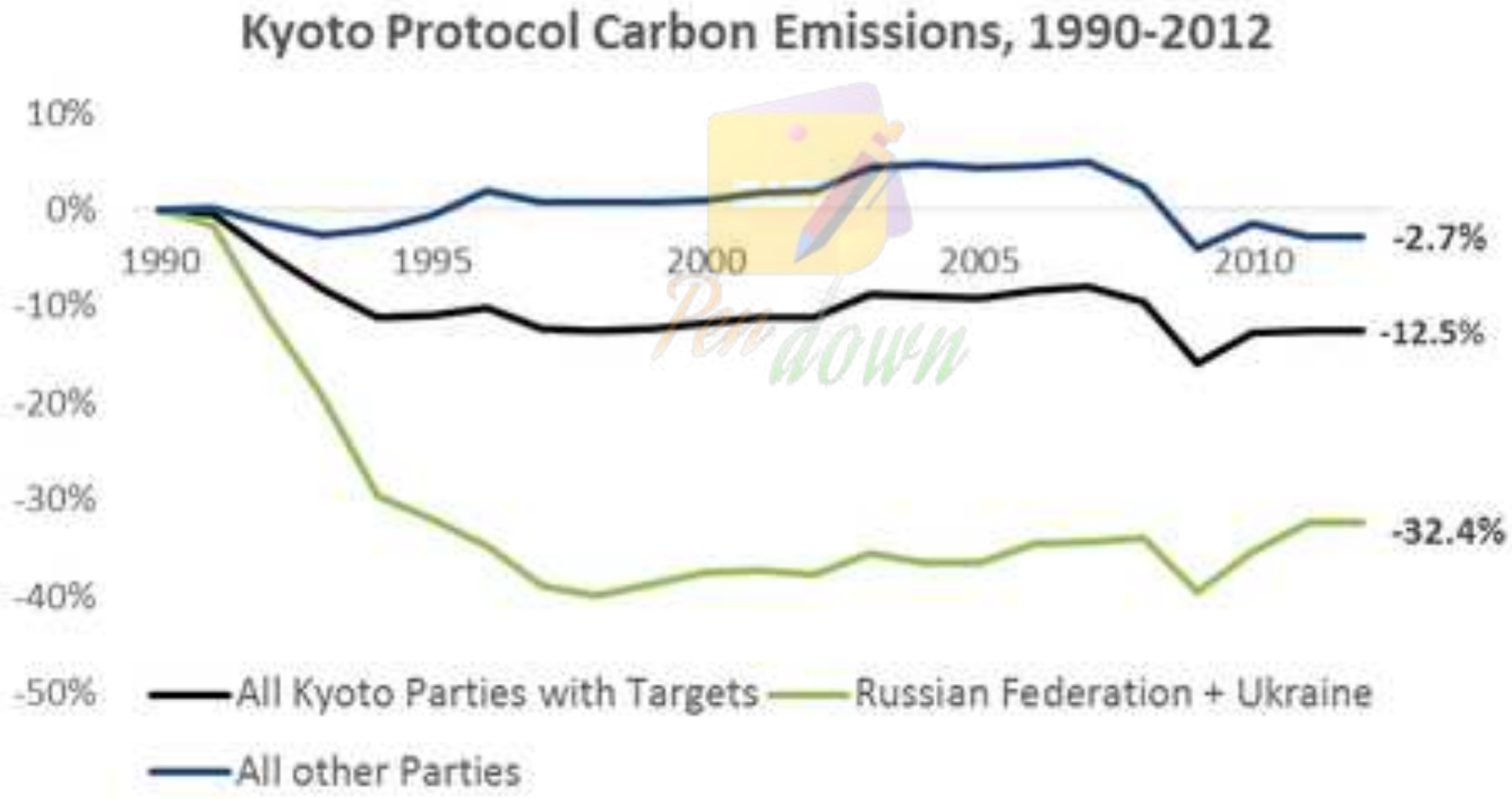
Kyoto Mechanisms: Joint implementation

- **Joint implementation** (**JI**) is one of three flexibility mechanisms set out in the Kyoto Protocol to help countries with binding greenhouse gas emissions targets (the Annex I countries) meet their treaty obligations
- Under Article 6, any Annex I country can invest in a project to reduce greenhouse gas emissions in any other Annex I country (referred to as a "Joint Implementation Project") as an alternative to reducing emissions domestically.
- In this way countries can lower the costs of complying with their Kyoto targets by investing in projects where reducing emissions may be cheaper and applying the resulting Emission Reduction Units (ERUs) towards their commitment goal.
- A JI project might involve, for example, replacing a coal-fired power plant with a more efficient combined heat and power plant. Most JI projects are expected to take place in the economies in transition (the EIT Parties) noted in Annex B of the Kyoto Protocol.
- Currently Russia and Ukraine are slated to host the greatest number of JI projects.

Kyoto Mechanisms: Joint implementation

- The **Clean Development Mechanism** (CDM), defined in Article 12 of the Protocol, allows a country with an emission-reduction or emission-limitation commitment under the Kyoto Protocol to implement an emission-reduction project in developing countries
- The CDM, defined in Article 12 of the Protocol, was intended to meet two objectives:
  - To assist parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC), which is to prevent dangerous climate change; and
  - To assist parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments (greenhouse gas (GHG) emission caps)
- Such projects can earn saleable certified emission reduction (CER) credits, each equivalent to one tonne of CO2, which can be counted towards meeting Kyoto targets.

Kyoto Protocol, 1992



Paris Agreement on Climate Change, 2016

- On **12 December, 2015**, the Paris Agreement was adopted as an agreement within the UNFCCC framework.
- As of February 2020, all UNFCCC members have signed the agreement, 189 have become party to it, and the only significant emitters which are not parties are Iran and Turkey.
- India ratified on 02 October 2016.

Provisions in Paris Agreement

- A long-term target to limit the rise in the global temperature "to well below 2°C (3.6° F) above pre-industrial levels" and appealed to countries to engage in efforts to restrict the increase to 1.5°C.
- A promise to generate a global assessment of climate improvement by 2018; and the nations will be back to the negotiating table by 2020 for presenting climate objectives that would represent an advancement ahead of their then-existing target.
- Voluntary pledges made by 188 parties (countries) to climate change action in the shape of Intended Nationally Determined Contributions (INDCs).
- Emissions-slashing pledges from individual countries and promises to help the developing nations adapt to the detrimental effects of global warming. Moreover, the negotiators agreed on measures to amend, strengthen. and scrutinize countries' individual contributions (lNDCs).

India's Ratification of Paris Agreement

- India ratified the Paris agreement on climate change on 2nd October 2016.
- India is the world's 4th-largest carbon emitter accounting for 4.1% of the total global emission, is the 62nd nation to ratify the agreement.
- India stresses the need for equity and fairness (as highlighted by the developing countries).
- Obligation on all parties (countries) to take climate action in consideration of their respective domestic/national circumstances.

India’s Commitment
Paris Agreement on Climate Change, 2016

- Reduction in emissions intensity per unit GDP by 33 to 35% below the 2005 level by 2030.
- The aim is to produce 40% of the total electricity from sources other than fossil fuels.
- Creation of an additional carbon sink of 2.5 to 3 billion tonnes of carbon—dioxide through extra forest and tree cover by 2030.
- Voluntarily installing 175 GW of renewable power capacity by 2022 (Targets are 100 GW of electricity from solar energy, of which 40 GW would be through individual rooftop systems.

Thank You


Thank
you