

**Topic – Protocols for Conservation**

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## Protocols for Conservation

**Protocol**= The first or original version of an agreement in writing.

**Conservation**= Practices and customs through which man tries to ensure a continuous yield of natural resources and its protection from wastage. The proper use of natural resources through conservation should be “ the greatest good of the greatest number (of people) for the longest time.”

Thus, this topic would discuss the different National and International agreements and rules required for protection of different natural resources (substances that exist free in nature developed without any human action, namely sunlight, water, air, soil, forests, rocks, minerals, animals etc.)

**World charter for Nature** was developed by the United Nations in 1982 for conservation of nature. It proclaims five principles of conservation by which all human conduct affecting nature is to be guided and judged.

- Nature shall be respected and its essential processes shall not be impaired.
- The genetic viability on the earth shall not be compromised, the population levels of all life forms, wild and domesticated, must be at least sufficient for their survival, and to this end necessary habitats shall be safeguarded.
- All areas of the earth, both land and sea, shall be subject to these principles of conservation, special protection shall be given to unique areas, to representative samples of all the different types of ecosystems and to the habitats of rare and endangered species.
- Ecosystems and organisms, as well as the land, marine and atmospheric resources that are utilized by man, shall be managed to achieve and maintain optimum sustainable productivity, but not in such a way as to endanger the integrity of those other ecosystems or species with which they coexist.
- Nature shall be secured against degradation caused by warfare or other hostile activities.

**Brundtland Commission-** United Nation created it in 1983 to unite countries to save environment and natural resources and pursue sustainable development together. The definition of sustainable development was given as “ Sustainable development is development that meets the needs of the present without compromising the needs of future generations.”

## Natural Resources

1. **Water-** Water conservation refers to reducing the use of water and recycling waste water for different purposes.

Methods of water conservation are

- Afforestation (increase in plant cover)- Roots of trees helps in infiltration of water thus recharging water resource.
- Reduce water loss through run-off- Rainwater harvesting
- Preventing water pollution- Polluted water is unfit for any use. Therefore it becomes necessary to prevent its pollution. Waste water treatment and proper management of wastes should be done before disposing it off into water bodies.
- Replenishing ground water- Use of wells, renovation and construction of traditional water resources.
- Use of modern irrigation practices- Sprinkler and drip irrigation can save upto 50% of water required for irrigation as compared to traditional methods of irrigation.
- Individual efforts to conserve water- repairing leaks of pipes, faucets etc.
- Reducing industrial water use- This could be reduced by increasing recirculation of water.

**National Water Policy** is formulated by govt. of India to govern the planning and development of water resources and their optimum utilization. The first National water policy was adopted in september, 1987. It emphasises resource planning and recycling for maximum availability.

**Central Pollution Control Board** (CPCB) is the national body of India for assessing, monitoring and control of water pollution.

In 1982, **United Nations Convention on the law of the sea** was established which puts restrictions on the amount of toxins and pollutants that come from all ships internationally.

**World Water Commission** was established at Hague in 1999 to consider questions related to water conservation and to develop strategies of water management.

**Ramsar Convention on Wetlands** (water saturated lands) is an international treaty signed in February, 1971 for conservation and sustainable use of wetlands.

2. **Air**- Air conservation refers to protection and taking efforts to make air clean.

Methods of air conservation are

- Afforestation
- Preventing air pollution

- Vehicular pollution can be controlled by use of public transport, carpools and walking to nearby places instead of using private cars.

- Use of renewable sources of energy instead of burning fossil fuels.

- Waste gases of industries should be treated before disposing off in the air.

**Central Pollution Control Board** (CPCB) is the national body of India for assessing, monitoring and control of air pollution.

**The Vienna Convention** signed in 1985 provided guidelines for international reductions in the production of chlorofluorocarbons due to their contribution to the destruction of ozone layer.

**Montreal Protocol**- International treaty agreed on September 1987 to protect ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion.

**United Nations Framework Convention on Climate Change (UNFCCC)**- Treaty signed in June 1992 at Rio de Janeiro which recognised climate change a major threat to environment and aimed to stabilize the greenhouse concentrations in the atmosphere

**Kyoto Protocol**- International treaty signed in December 1997 sets mandatory limits on greenhouse gas emissions.

3. **Soil**- The methods used for checking the transportation or loss of soil are together known as soil conservation. Soil conservation means protection, improvement and sustained renewal of the soil at any place.

Methods of soil conservation are

- Afforestation- Trees act as windbreaks.
- Mulching- Any material used at the surface of the soil to assist in soil productivity is called as mulch( plant residues, manure, litter, paper). This helps in conservation of soil by preventing soil erosion.
- Terraced cultivation- The slope is divided into a series of small flat fields called terraces. Each terrace may be further provided with a broad-bottomed channel with a slight slope towards the outlet. These channels break up long slopes into a number of small water sheds. The object is to slow down the flow of water and lead it to the sides of the fields where it flows away without eroding the soil.
- Crop rotation- A technique of planting different crops in different seasons to avoid exhaustion of the soil in respect of one kind of nutrient. This technique maintains soil productivity for a longer period.
- Contour farming- The farm is ploughed into alternating ridges and furrows. Rain water gets collected in the furrows and gradually percolates into the soil. The ridges reduce the flow of water.
- Basin listing- These are water reservoirs constructed along the contour to collect flowing

water, particularly in hills.

- Trenching and bunding- Where the soil runoff is heavy, small bunds can be made of earth and boulders by digging trenches and heaping the soil on the lower side. The flood water, loaded with silt is thus caught by the drain and the silt deposited at the bottom allowing only clean water to flow over after the ground gets saturated.
- Control of gullies(A landform created by running water, eroding sharply into soil, deep ditch or drain)- Dam building, sowing soil binding grasses along the sides of gullies.
- Restoration of fallow lands.
- Control of Shifting cultivation by providing one ha.of agricultural land with irrigation facility and one ha.for horticulture and plantation.
- Maintenance of soil fertility by addition of mycorrhiza, growing leguminous plants etc.

**Stockholm Convention** signed in May 2001 aims to eliminate or restrict the use of organic pollutants.

4. **Forests**- Forest conservation refers to the practice of planning and maintaining forested areas for the benefit and sustainability of future generations.

Methods of forest conservation are

- The trees, if cut for timber or other uses, should be replaced by planting of more trees to avoid deforestation.
- The use of fuel wood and wood charcoal should be discouraged. This can be done by using other sources of energy such as biogas.
- Modern management methods should be used. This should include use of irrigation, fertilizers, tissue culture and control of bacterial and other diseases, weeds, etc.
- The annual rate of reforestation should be much greater than the rate of deforestation, so that there is no scarcity.
- Enrichment Planting- Recovery of degraded forests can be speeded up by planting nursery grown saplings of chosen species to fill up rapidly the vacant space in the existing forest.
- Acceleration of recovery by biological processes like introduction of mycorrhiza, blue-green algae etc.
- Establishment of gene banks.
- Social forestry- Social forestry programme was initiated in 1976 with two main objectives:
  - use of public and common land to produce in fire wood, fodder and timber for local population and also to manage soil and water conservation and
  - to relieve pressure on existing forests needed for soil and water conservation.

To achieve these objectives social forestry programme aims at growing plants and then protecting multipurpose species for firewood, fodder, agricultural implements, fruits, etc. by involving villagers.

- Agroforestry programme- It is a system of land use where woody perennials are purposely used on the same land that is generally used for farming and animal husbandry. This aims at obtaining greater output on a sustained basis.
- Urban forestry programme- This primarily consists of growing trees for aesthetic purpose in urban areas.
- People's movements- The increasing awareness of forest cover has generated great activity in recent years.

**Chipko movement** started in December 1972 in Tehri-Garhwal district of Uttarakhand under the leadership of Shri Sunderlal Bahuguna is one such famous example. The movement inspired the local population to stand guard against indiscriminate cutting of forests by profit-making agencies.

A similar movement called **Appiko Chaluvalli** started in Karnataka.

Public agitation for prevention of construction of hydro electric project in **Silent Valley** region of

Kerala is another example. This has helped to save innumerable species of plants and animals growing in the area.

**A National Forest Policy of Government of India** announced in 1952 recommends that the forested area be increased to 33% of the total land area that is 60% in the hills and 20% in the plains.

To maintain the ecological balance, the Government of India sponsored the **Forest Conservation Act** of 1980, which lays down that “no state government or any other authority shall issue any order without the centre's approval to permit forest land or reserve forest to be directed for non-forest purposes”.

**Convention on Biodiversity (CBD)**(Earth Summit)- Multilateral treaty signed in 1992 at Rio de Janeiro for:

- Conservation of Biodiversity.
- Sustainable use of the components of biodiversity.
- Sharing of benefits arising from commercial and other utilization of genetic resources in a fair and equitable way.

**United Nations Convention to Combat Desertification (UNCCD)**- International treaty signed in 1994 at Paris to mitigate the effects of drought and land degradation in dry regions.

5. **Animals**- The practice of protecting animal species and their habitats in order to prevent from extinction.

Methods of animal conservation are

- Establishment of National Parks and Biosphere Reserves (In- situ and ex- situ conservation).
- Establishment of gene banks.
- Collection and Preservation of germplasm material.
- Legislation for Conservation-IUCN (International Union for Conservation of Nature and Natural Resources) is directly responsible for the protection of nature and natural resources. It has created WWF (World Wildlife Fund) and WCS (World Conservation Strategy).
- Control on over-exploitation

**Convention of International Trade in Endangered Species (CITES)** of both fauna and flora- Treaty signed in 1973 at Washington, D.C. to protect endangered plants and animals.