

MODULE 13: NATURAL RESOURCES GOVERNANCE, POLICY AND LEGISLATION

Module details	Name	Affiliation
Subject Name	Social Work Education	
Principal Investigators	Prof S Parasuraman and Prof Manish Jha	Tata Institute of Social Sciences
Paper Name	Rural Development	
Paper Coordinator	Prof Bipin Jojo	Tata Institute of Social Sciences
Module number and title	Module 13: Natural Resources Governance, policy and Legislation	
Module Writer	Dr Neelam Yadava	Tata Institute of Social Sciences
Keywords	Natural resources- water, forest, energy, marine, land, soil, mineral, Food security, Natural resource management, Natural resource policy and governance, Environmental legislations, Public interest litigation, Pollution control board.	
Summary	<p>India has rich endowment of resources. An integrated effort is now being made by our country to make the best use of the existing resource potential. Simultaneously, it acts as indicator for the levels of development. Even today, natural resources are being exploited by humans to meet their needs. Resource is anything useful or can be made useful to humans to meet their needs. The resource that is directly available for use from nature is called natural resource, which includes air, water from rainfall in lakes, rivers and wells, soil, land, forest, biodiversity, minerals, fossil fuels etc. Resource is anything useful or can be made useful to humans to meet their needs. The resource that is directly available for use from nature is called natural resource, which includes air, water from rainfall in lakes, rivers and wells, soil, land, forest, biodiversity, minerals, fossil fuels etc. Increasing growth of human population has led to deforestation, draining of wetlands and reclamation of coastal areas to build their homes, farms and factories. Huge amounts of fossil fuel are</p>	

	<p>being used in industries and for transportation.</p> <p>The awareness and consideration for environment covers several environmental issues such as pollution of water, air and soil, land degradation, industrialization, urbanization, depletion of natural resources etc. Environmental Law plays a very crucial and important role in regulating the use of natural resources and in protecting the environment. The success of environmental legislations mainly depends on the way they are enforced. Indian legislations are called Acts whereas the international legislations are in the form of conventions, protocols and treaties. Pollution is an important factor and it does not observe political territories or legislative jurisdictions. Thus environmental problems are intrinsically global in nature. Therefore, to prevent such problems environmental legislation is not needed only at the national level but also at the international level.</p>	
Content reviewer	Prof. H. Beck	Tata Institute of Social Sciences
Language editor	Mr Venkatnarayanan Ganapathi	Freelancer, Pune

MODULE 13: NATURAL RESOURCES GOVERNANCE, POLICY AND LEGISLATION

Natural Resource Management

India has rich endowment of resources. An integrated effort is now being made by our country to make the best use of the existing resource potential. It helps to meet the demands of growing population and also provide opportunities for employment. Simultaneously, it acts as indicator for the levels of development. In this lesson we will study three vital resources i.e. land, soil and vegetation. When humans evolved more than two millions years ago, the natural resources were over abundant as compared to human needs. As human population increased, more and more food and resources for shelter were required and these were drawn at an increasing rate from the environment. Even today, natural resources are being exploited by humans to meet their needs. As is with other animals, the survival of humans also entirely depended on their obtaining food from the environment. Being intelligent, human beings exploit environmental resources for many purposes other than just for procuring food. In the last few centuries, the exploitation of environmental resources has dramatically

increased, leading to serious damage and degradation of the environment. Resource is anything useful or can be made useful to humans to meet their needs. The resource that is directly available for use from nature is called **natural resource**, which includes air, water from rainfall in lakes, rivers and wells, soil, land, forest, biodiversity, minerals, fossil fuels etc. In this unit you shall learn about natural resources and how human activities degrade and deplete the natural resources of the environment, about the utilization and exploitation of natural resources and how, they are being overexploited.

The resources on which mankind is dependent are provided by various sources or 'spheres' namely atmosphere (air), hydrosphere (water), lithosphere (soil and minerals) and biosphere (flora and fauna). Further, the assemblage of plant species, e.g. trees, shrubs, grasses, creepers and climbers and the like living in association with one another in a given environment is known as natural vegetation. Sustenance, development, industrialization and economic growth of any country could be estimated by its energy needs and its sources. Scientifically, based on the sources, these are divided into two. First, Non-renewable resources that could not be recycled and could be exhausted, like fossil fuel, oil and coal and secondly, Renewable resources that could be recycled and reused and might not exhaust if used judiciously and these include air, and water. Further classification is based on the forms of usability and is divided into primary, intermediate and secondary sources. Primary resources are found in nature prior to undergoing any human made conversions or transformations, e.g. coal, crude oil. Intermediate resources are those that are obtained from primary energy by one or more steps of transformation and are used as vehicles of energy and finally, secondary resources are the form of energy which are finally supplied to a consumer for utilization is known as secondary or usable energy, e.g. electrical energy (in the form of steam or hot water), chemical energy (in the form of hydrogen or fossil fuels), etc.

Resource is anything useful or can be made useful to humans to meet their needs. Natural resources are earth's natural material and process that sustain life on earth. Petroleum, natural gas and coal are major non-renewable fossil fuel. They are gradually getting depleted with high rate of consumption. New energy sources must be found out so that the fossil fuels can be conserved for future. Minerals are important non-renewable resources and are extremely important for our industrial and economic growth. India has rich iron resources in many states. Gold, silver, aluminium, copper, tin, lead, zinc are non-ferrous metallic minerals. India has rich deposits of several non-metallic

minerals like limestone dolomite, mica. Land degradation is the deterioration in quality of land. Soil erosion is a natural process in which loosening and displacement of top soil particles occurs. Erosion of soil by wind generally takes place when vegetation is inadequate and is unable to cover and hold the soil—this type of erosion thus occurs in dry and arid regions. Application of biocides causes death of useful non-target organisms along with pests. Excessive irrigation of agricultural fields especially in regions where temperature is high, results in water logging and salinisation. Excessive irrigation also depletes ground water resources and raises the water table. Soil degradation can be prevented or controlled by innovative agricultural techniques. Soil condition can be improved by remedial measures that include: (i) planting tree cover for reducing wind speed, (ii) adopting certain cultivation and farming techniques like cultivation at right angles to direction of wind, contour farming, strip farming, terrace farming, (iii) ensuring that field is covered with vegetation for as long as possible (iv) not tilling the field, (v) polyvarietal crop cultivation in fields and (vi) addition of organic matter to soil.

Water is an indispensable natural resource. Sources of usable water are rivers, lakes, ponds, tanks and groundwater. Several factors responsible for water scarcity are – (i) Increased demand of an increasing population. (ii) Increasing demand by expansion of irrigation and its demand. (iii) Increasing water use due to changing in lifestyle. (iv) Silting of rivers (v) Bad management of water resources. Since water is needed for domestic purposes, in industries, irrigation and rearing livestock, its conservation is absolutely necessary. Water may be conserved by proper management of water resource. this can be in four directions:(i) Reducing wastage of water, (ii) Storage, (iii)Recharging and (iv) Harvesting of water. Water wastage is best reduced by generating public awareness through the media, enforcement by the government and by individual efforts. Water harvesting is through collection of rainwater, regular desiltation of canals and ponds, injecting flood waters into aquifers. Another way of obtaining usable water is by removing pollutants from freshwater bodies. Our rivers Ganges and Yamuna had been polluted and are being cleaned through the river action plans. Energy is defined as the capacity to do work. Energy is renewable and non-renewable. Conventional sources of energy are fossil fuels whereas non conventional sources are solar, wind, hydel power, tidal, geothermal and biomass energies. Biofuels are obtained from plants and plant products and may be in the form of liquid (Bioethanol) may be obtained as gases CO₂ and CH₄ (bio gas). Oil seeds of plants like Jatropha, Hevea and Calophyllum yield biodiesel. Certain careful actions at home and place of

work can save energy. India has a well chalked out electricity conservation programme. Development of fuel efficient vehicles to reduce emission of green house gases as well as to reduce energy waste.

NATURAL RESOURCE GOVERNANCE AND POLICY

Resource is anything useful or can be made useful to humans to meet their needs. The resource that is directly available for use from nature is called **natural resource**, which includes air, water from rainfall in lakes, rivers and wells, soil, land, forest, biodiversity, minerals, fossil fuels etc. Thus natural resources are supplied by our environment. When human population was small and they lived a controlled and moderate life, the resource use was limited. But increasing population and economic activity resulted in excessive material consumption is putting heavy burden on natural resource base and that is causing severe damage to the environment. Increasing growth of human population has led to deforestation, draining of wetlands and reclamation of coastal areas to build their homes, farms and factories. Huge amounts of fossil fuel are being used in industries and for transportation. Destruction of forests causes loss of biodiversity which will deprive the future generations from the treasure of biodiversity. It is therefore, extremely important to prevent further degradation of natural resources and use them in a wise and judicious manner to ensure their sustainable utilization. Natural resource conservation involves wise use of natural resources so that they are not wasted, depleted or degraded and are available to both present and future generations.

International law shapes the underlying framework of the international system for allocating resources, by establishing basic rules about circumstances under which nations can assert property rights in resources; this framework influences both how nations see resource problems and the kinds of solutions they consider. Thus international law is necessary to understanding how nations deal with natural resource issues, but it is scarcely a sufficient element, and political, economic, social, scientific, or technological factors often also will play an equal or more important role. Three ways in which international law seems important to thinking about international resource policies and problems:

1. The ways in which differing legal concepts of national property rights affect the structure of international resource arrangements;

2. The ways in which disputes about international law reveal underlying differences in views of equity or fairness in international natural resource arrangements;
3. The ways in which international law can help nations reach cooperative arrangements for dealing with natural resource problems.

Major environmental laws dealing with protection of environment can be divided into following categories

- Water pollution
- Air pollution
- Environment protection
- Public liability insurance
- National environment appellate authority
- National environment tribunal
- Animal welfare
- Wildlife
- Forest conservation
- Biodiversity
- Indian forest service

Thus international law is necessary to understanding how nations deal with natural resource issues, but it is scarcely a sufficient element, and political, economic, social, scientific, or technological factors often also will play an equal or more important role. Forests are the backbone of the life forms and the life on earth is sustained through them. There are three major functions of the forests i) productive functions .ii) protective functions iii) regulative functions. Timber and several

models obtained from plants for medicine are still provided by forests. Tribal people totally depended on forests for food, shelter and clothing; in turn they also conserve the forests. Deforestation of forests is caused due to shifting cultivation, demand for timber, for paper and pulp, commercial wood and fire wood, and mining operations. Deforestation also causes soil erosion and floods, climatic changes, loss of wild life. Loss of biodiversity during deforestation is immense because several unknown species of biota is lost forever from our planet earth. Extinct species are those that were unable to survive in the changed environment and thus perished. Threatened species are likely to become extinct if their environment deteriorates further, endangered species are few in number and their homeland is very small and any deterioration in environment can make them extinct. Depleted species are those whose number have decreased in the recent years and are continuing to decrease. Indeterminate species are those species whose status is not known due to lack of information. Desertification is a natural phenomenon but it is often accelerated by human activities. They are uncontrolled grazing, indiscriminate cutting of forests, excessive mining, uneconomic use of agriculture land, exploitation of water resources. Deforestation and desertification are two interlinked problems which have arisen from the overexploitation of natural resources through human activities causing irreparable damage to earth.

ENVIRONMENTAL LEGISLATION

The awareness and consideration for environment covers several environmental issues such as pollution of water, air and soil, land degradation, industrialization, urbanization, depletion of natural resources etc. Environmental Law plays a very crucial and important role in regulating the use of natural resources and in protecting the environment. The success of environmental legislations mainly depends on the way they are enforced. Legislation also serves as a valuable tool for educating masses about their responsibility in maintaining healthy environment. Numerous legislations have already been put forth at national and international levels. In this lesson, you will learn about some important environmental legislations. Indian legislations are called Acts where as the international legislations are in the form of conventions, protocols and treaties.

In the recent past, numerous environmental problems have become threatening for human welfare. An important aspect of environmental problems is that their impact is not confined to the source area but spills over far and wide area. Effective legislation is needed in order to prevent misuse

and degradation of the environment. To curb the destructive practices of unscrupulous people, forest mafia groups, poachers, polluters and over exploitation of environmental resources, effective legislation is necessary. Pollution is an important factor and it does not observe political territories or legislative jurisdictions. Thus environmental problems are **intrinsically global** in nature. Therefore, to prevent such problems environmental legislation is not needed only at the national level but also at the international level.

The genesis of various legislations in the country lies in the environmental problems. There should be effective **legislations to protect the environment** or else the need for resources by the growing population will create havoc on the environment. At national level serious efforts have been made for the improvement and protection of environment by incorporating changes the constitution of India. Our constitution, originally, did not contain any direct provision regarding the protection of natural environment. However, after the United Nations Conference on Human Environment, held in Stockholm in 1972. Indian constitution was amended to include protection of the environment as a constitutional mandate. The forty second amendment Clause (g) to Article 51A of the Indian constitution made it a fundamental duty to protect and improve the natural environment.

The department of Environment was established in India in 1980 to ensure a healthy environment for the country. This later became the Ministry of Environment and Forests in 1985. This Ministry has overall responsibility for administering and enforcing environmental legislations and policies. The constitutional provisions are backed by a number of legislations – **Acts and rules**. Most of our environmental legislations are Acts of the Parliament or the State Legislatures. The Environment Protection Act of 1986 (EPA) came into force soon after the Bhopal Gas Tragedy and is considered umbrella legislation as it fills many lacunae in the existing legislations. Thereafter, a large number of environmental legislations have been passed to deal with specific environmental problems. Although India had an Elephant's Preservation Act of 1879 and a Forest Act of 1927, environment related legislation came very late in 1972 with Wild Life Protection Act 1971.

The various national and international legislations, which have been framed to stop environmental degradation. India is one of the few countries of the world that have made specific reference in the constitution to the need for environmental protection and improvement. The Central Government and State Governments have utilized this provision to pass various Acts in order to

protect the environment from destruction. There is a great contribution of UN in addressing global environmental challenges. To implement the agenda of UN, there is movement towards environment protection on a worldwide scale through special conventions, protocols and multilateral agreements. Despite of the presence of satisfactory legislative measures and administrative set-up, it is difficult to enforce the legislation due to lack of expertise, shortage of funds, and no seriousness on the part of implementing authority. The main objective of water act of 1974 is to provide prevention and control of water pollution and maintaining or restoring of wholesomeness and purity of water. The main objective of Air Act 1981 is to improve the quality of air and to prevent, control and abate air pollution in the country. Through environment acts Central Government gets full power for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating pollution. Most of the international legislation is international agreements to which nations adhere voluntarily. A protocol is an international agreement that stands on its own but is linked to an existing convention. The aim of Wetland convention is to halt the loss of wetlands and to ensure the conservation of flora and fauna and their ecological process. The objective of Montreal protocol is aims to reduce and eventually eliminate the emission of man-made ozone depleting substances.



Pathshala
A Gateway to All Post Graduate Courses