

habitat. This all is accomplished by the development of some characteristics.

## TERMINOLOGY OF ECOLOGY

- **Species:** A species is a natural biological unit tied together by the sharing of a common gene pool. It can be also defined as a uniform interbreeding population spread over time and space.
- **Vegetation:** the collective and continuous growth of plants in space is called vegetation. Thus, vegetation is actually the totality of plant growth including large or small productions of each species intermixed in a region. In other words we may say that vegetation is the sum total of plant population covering a region.
- **Flora:** Flora is the species content of the region irrespective of the numerical strength of each species.
- **Population:** A population is a group of individual organism of the same species in a given area.
- **Community:** A community is a group of populations of different species in a given area. It thus includes all the populations in that area- all plants, all animals and all microorganisms.
- **Factor:** Any external force, substance or condition that affect organisms in any way, is known as factor.
- **Environment:** The sum of all factors constitute environment. It thus become indeed a complex of so many factors, better referred to as environmental complex.
- **Habitat:** The place, where an organism lives, or the place where one would go to find the particular organism is known as the habitat of the organism. The habitat of organism actually represents a particular set of environmental conditions suitable for its successful growth.
- **Adaptation:** Any species puts its efforts to make full use of available nutrient pool and other environmental conditions prevailing in the area of its growth. It ensures its own protection against adverse conditions of the
- **Ecad:** Some of the species have more than one kind of populations spread over wide range of habitat conditions. An ecad of a plant species in a population of individuals which although belong to the same genetic stock, but differ markedly in vegetative characters such as size, shape, number of leaves, stems etc. These variations are simply environmentally induced, and thus are temporary or reversible i.e. one type of ecad may change into another with the change in its habitat.
- **Ecotype:** An ecotype is a population of individuals of a species, which are genetically different. Since different ecotypes are inter-fertile, these are kept under the same taxonomic species. Their variations are permanent and irreversible as these are genetically fixed.
- **Ecotone:** Although plant species grow in association with each other in groups as communities in nature, there is hardly distinguishable a point or sharp line of distinction between the two different communities. There is generally a zone of transition, presenting a situation of special ecological interest between two different types of communities, which is known as ecotone.
- **Life Form:** A life form is the sum of adaptation of the plant to the climate. This view point is considered in the physiognomic method of study of plant communities.
- **Biological Spectrum:** The percentage distribution of species among the various life forms of a flora is called the biological spectrum of that place.
- **Ecological Succession:** Vegetation is hardly stable, and thus dynamic, changing over time and space. Although comparatively less evident than vegetation, animal populations, particularly lower forms, also show dynamic character to some extent. Succession is a natural process by which different groups or communities colonize the same area over a period of time in a definite sequence. The succession, which starts from a primitive substratum without any previous living matter, is known as the primary succession, whereas

that starting from the previously built up substratum where living matter already existed, is known as the secondary succession. If the existing community, as a result of its reaction with the environment, causes its own replacement, then such a succession is known as the autogenic succession but if the replacement of the existing community takes place due to the influence of any external force or condition, then it is called allogenic succession.

- **Climax:** In the natural process of succession, one community continues to follow another, until a stage comes when a type of community cannot be displaced under the prevailing environmental conditions. This final, terminal community, that can maintain itself more or less indefinitely in a equilibrium with the prevailing environment, is known as the climax community and the stage is said to be the climax.
- **Biome:** A complex of several types of communities, some in climax stage and others in different stages of succession, maintained more or less similar climatic conditions is known as biome.
- **Ecosystem:** In a given area, the biotic assemblage of all the organisms, plant as well as animal communities, that there is flow of energy leading to clearly defined trophic structure, biotic diversity and material cycles within a system, is known as an ecological system or ecosystem. An ecosystem is the whole biotic community in a given area plus its abiotic environment.
- **Biosphere:** The earth's living organisms interacting with their physical environment may be considered as a giant ecosystem, which is the largest and most nearly self-sufficient biological system we know, and this is designated as the biosphere or ecosphere. Thus the plant earth along with the atmosphere, hydrosphere lithosphere which sustain life is known as biosphere.
- **Standing State:** The amount of inorganic substance, such as P, S, C, N, H etc. present at any given time in the environment of an ecosystem, is known as the standing state or standing quality.
- **Standing Crop:** The amount of living material, present in a component population at any time, is known as the standing crop, which may be expressed in terms of number or weight per unit area.
- **Biomass:** Biomass is the standing crop expressed in terms of weight (i.e. organism mass) of the living matter present.
- **Food chain:** In any ecosystem, various living organisms are arranged in a definite sequence according to their food habits. Plants are producers which are eaten by herbivores, which are in turn eaten by carnivores. This transfer of food energy from the source in plants through a series of organisms with repeated eating and being eaten is known as a food chain of an ecosystem.
- **Food web:** Under natural conditions in the same ecosystem, depending upon the variety of organisms, there generally operate a number of linear food chains at a time. These chains are interlinked with each other at several points. This interlocking pattern of a number of food chains forms a web-like arrangement known as a food web.
- **Productivity:** The rate of production i.e. amount of organic matter accumulated in the living component of an ecosystem in unit time is referred to as the productivity of the ecosystem. Primary productivity is defined as the rate at which radiant energy of a sun is stored by photosynthetic and chemosynthetic activities of producers in the form of organic substances, used as food material. The rates of energy stored at consumer level are referred to as secondary productivity.
- **Gross primary productivity:** It is the total rate of photosynthesis, including the organic matter used up in respiration during the period of measurement, This is also called Total Photosynthesis or Total Assimilation.
- **Net Primary Productivity:** It is the rate of storage of organic matter in plant tissue in excess of that utilized in respiration by plants during the period of measurement. This is also called Apparent photosynthesis or Net Assimilation.

- **Net productivity:** Net productivity of a community is the rate of storage of organic matter not used by heterotrophs i.e. net primary production minus heterotrophic consumption, during the period under consideration.
- **Biogeochemical cycles:** More or less circular path ways, through which the chemical elements, including all the essential elements of the protoplasm, circulate in the biosphere from environment to organisms and back to the environment, are known as the biogeochemical cycles.
- **Ecological Niche:** Ecological niche of an organisms include the physical space occupied by it, its functional role in the community i.e. trophic position, and its position in environment gradients of temperature, moisture, ph of soil etc. and the condition of existence. Organisms that occupy the same or similar ecological niche in different geographical regions are known as Ecological Equivalents.

### UNIT-3

#### ENVIRONMENTAL JURISPRUDENCE

#### HISTORY OF ENVIRONMENTAL LAWS IN INDIA & ENVIRONMENTAL JURISPRUDENCE

#### INTRODUCTION

- Stockholm Conference (held in Sweden capital Stockholm, known as The United Nations Conference on the Human Environment, in June 1972) marked the beginning of a new era of environmental management and protection in India. Since then India has been a major player in the articulation of international environmental issues and debate. It is a ring leader of a group of nations which could define the environmental and climate change mitigation pursuits in a new direction. Yet it is a misconception that India's torrid love affair with the environment only began in 1972, around the Stockholm Conference. In fact, environmental issues have always held central position in holistic India philosophy.
- With a large country and as diverse as India, the success of a particular law can be debate. Yet the highest judiciary of the country has been part of the success story with landmark judgments which have tried to upload the stringent measures of the

laws to protect the environment. The Wildlife (Protection) Act 1972 was the first such statute to be promulgated. In the following years the Water (Prevention and Control Population) Act of 1974, The Forest (Conservation) Act 1980, The Air (Prevention and Control of Population) Act 1981, and The Environment (Protection) Act 1986 collectively gave the country a bundle of strong laws.

- India has had a colourful history. With each phase of colonization, either by the Aryans in one of the earliest civilizations of the world, to the occupation of the country by the Mughals from Central Asia and finally the three hundred year old domination by England, Environmental Laws have kept pace with each phase according to the administrative desires of the occupants of this country.
- Kautilya' Arthashastra in Mauryan period wrote about environmental protection in the large canvas of ethical administration. Yajnavalkya Smriti, a historic Indian text on statecraft and jurisprudence, suggested to have been written before the 5<sup>th</sup> century AD, prohibited the cutting of trees and prescribed punishment for such acts. Ashoka went further, and his Pillar Edicts expressed his view about the welfare of environment and biodiversity.
- The British colonized India and for the next three hundred years plundered the natural resources in the country. Through environmental laws were passed, they were myopic with limited territorial reach. In 1855 Lord Dalhousie, the then Governor General of India, started the Indian Forest Department which led to the annexation of large tracts of land under the pretext of conservation of forests. In the end, the British hardly helped save the environment of India, but they did leave behind a text of environmental laws which had no teeth. After India achieved independence, these laws were suitably amended and then put into greater force. After the Stockholm Conference in 1972, environmental laws in India were brought with greater enthusiasm and ably supported by the judiciary with landmark judgments.
- In 1985, Indian government created the Ministry of Environment and Forest. This ministry is the central administrative organization in India for regulating and ensuring environmental protection. Despite active passage of laws by the central government of India, the reality of environmental quality mostly worsened during 1947 to 1990. Most of Indian economy was nationalized and

owned by India, and regulations were mostly ignored by state run enterprises. Rural poor had no choice, but to sustain life in whatever way possible. The state governments of India often regarded environmental laws enacted by the central government as a mere paperwork formality. Air emissions increased, water population worsened, forest cover decreased.

### **Environmental legislation in the 70's**

- The watershed event in the environmental movement was the Stockholm Conference on Human Environment in June 1972. The conference made it apparent to all attendees that each nation needed to adopt comprehensive legislation addressing health and safety issues for people, flora and fauna. Stockholm served as the genesis for the series of environmental measures that India passed in the years to come. It has also been suggested the international events such as Stockholm provided the cover Indian officials needed to implement national environment policy without the vitriolic backlash normally expected from industry. The year 1972 was a landmark in the history of environmental management in India. The wildlife (protection) Act promulgated in 1972, was the first such statute which provide a statutory framework for protecting wild animals, plants and their habitants. The act adopts a two-pronged conservation strategy: protecting specific endangered species regardless of location, and protecting all species in designated areas called sanctuaries and national parks. In the following years the Water (Prevention and Control of Pollution) Act of 1974 gave the country strong laws.
- Prior to 1972, environmental issues such as sewage disposal, sanitation and public health were dealt with independently by the different ministries without any co-ordination or realization of the interdependence of the issues. In the February 1972, a National Committee or Environmental Planning and Coordination (NCEPC) was set up in the department of the Science and technology, which was established as National Committee on Environmental Planning (NCEP) in April 1981, based on the recommendations of the Tiwari Committee (Set up in 1980). The NCEPC functioned as an apex advisory body in all matters relating to environmental

protection and improvement. However, it was replaced by a National Committee on Environmental Planning (NCEP) with almost the same functions.

### **Environmental legislation in the mid 80's**

- The Tiwari Committee in the 80's which was set up for recommending legislative measures and administrative machinery to strengthen the existing arrangements towards environmental protection, recommended establishing the Department of Environment (DOE) for dealing with various aspects of environment and ecology. The department of Environment, created in 1980, performed on oversight role for the central government. DOE did environmental appraisals of development projects, monitored air and water quality, established an environmental information system, promoted research, and coordinated activities between federal, state and local governments. However DOE was criticized, by environmental groups who recognized that with its small political and financial base the agency was weak and symbolic in nature. Environmentalists also recognized that DOE would essentially serve as an advisory body with few enforcement powers.
- The government of Prime Minister Rajiv Gandhi recognized these deficiencies as well, and shortly after his administration began in 1985 created the Ministry of Environment and Forests (MOEF). MoEF was more comprehensive and institutionalized, and had a Union Minister and Minister of State, two political positions answering directly to the Prime Minister.
- The 80's witnessed the continuing decline in the quality of the environment, together with the Bhopal gas tragedy that had killed more than 2500 people. This spurred that Central Government to adopt stronger environmental policies, to enact fresh legislation and to create, reorganize and expand administrative agencies. In 1981, the Air (Prevention and Control of Pollution) Act was passed, and in 1986 as fallout of the Bhopal gas tragedy, the Parliament passed the Environmental Protection Act (1986), this was an "umbrella" legislation designed to provide a frame work for Central Government coordination of the activities of various central and state

authorities established under previous laws, such as the water Act and Air Act. It was also an “enabling” law, which articulated the essential legislative policy on bureaucrats, to frame necessary rules and regulation. The Act served to back a vast body of subordinate environmental legislation in India.

- The Atomic Energy Regulatory Board in India’s nuclear safety organization, created in 1983 to ensure that the use of ionizing radiation and nuclear energy in India does not cause undue risk to health or environment. Its actions are derived from the Atomic Energy Act of 1962, and the Environmental (Protection) Act of 1986.
- **National Wasteland Development Board** was established in 1985 under the ministry of forests and environment mainly to tackle the problem of degradation of lands, restoration of ecology and to meet the growing demands of fuel wood and fodder at the national level.

### **Environmental laws in the 90’s**

The 90’s heralded trade liberalization and Globalization. Since 1991 India has adopted new economic policies to spur development. In an effort to integrate the Indian economy with global trade, the government has reduced industrial regulation, lowered international trade and investment barriers and encouraged export-oriented enterprise. In December 1993, the MoEF completed its Environmental Action Plan to integrate environmental considerations into development strategies, which, among other priorities, included industrial pollution reduction. The MoEF also decided to shift from concentration to load-based standards. This would add to polluter’s costs and remove incentives to dilute effluents, and strengthen incentives for adoption of cleaner technologies.

### **ENVIRONMENTAL LAWS @ WILDLIFE AND BIOLOGICAL DIVERSITY**

- **1972 – The Indian Forest Act and Amendment, 1984.** It is one of the many surviving colonial statutes. It was enacted to ‘consolidate the law related to forest, the transit to forest produce, and the duty leviable on timber and other forest produce’.

- Recently the Indian Forest (Amendment) Bill, 2012 was introduced in the Rajya Sabha on March 26, 2012 (Pending): The Bill amends the Indian Forest Act, 1927 (the principal Act). The Act consolidates the law related to forest and forest produce. It prohibits certain activities, some of which are punishable with imprisonment of up to six month or a fine of Rs 500. These include marking fresh clearances in forests and setting fire to a reserved forest. These offences can be compounded by officers empowered by the state government. [To compound an offence means to accept compensation in lieu of punishment. This relief is also allowed under Section 320 of the Criminal Procedure Code, 1973 for certain offences.

### **1972 – The Wildlife (Protection) Act, 1972**

Wildlife protection has been a focal point of every ruler in India. The earliest law on wildlife protection was created by Ashoka, the king of Magadha. The first codified law on wildlife protection was created by the British and was called the Wild Birds Protection Act, 1887, This Act protected wild species of birds which were hunted especially during their breeding season. This British subsequently passed the Wild Birds and Animals Protection Act, 1912 and amended it in 1935, but both proved futile in their attempt to protect wildlife. With the Second World War, wildlife protection took a backseat but with the independence of India, the Constituent Assembly in the Draft Constitution placed “Protection of Wild Birds and Wild Animals” at entry No.20 in the State List and the State Legislature has been given power to legislate. It was only in the late 1960’s which saw a concern for the depleting numbers of wildlife due to illegal poaching. The Act was passed on 9<sup>th</sup> September, 1972. Amendments to the Act were brought in 1976, 1982,1991 and 1993. The last amendment was brought in 2003 which made penalties much more stringent. The Wildlife (Protection) Act 1972 was the first piece of legislation passed to protect the environment. The Wildlife Act sought to protect species of animals and birds which were under threat of extinction. In essence India had a definitive set of environment protection and enhancement acts before the Rio Declaration came into force. It can be concluded that

India thus had a set of laws which could counter any environment issue. The Wildlife Protection Act, rules 1973 and Amendment 1991 provides for the protection of birds and animals and for all matters that are connected to it whether it be their habitat or the waterhole or the forests that sustain them.

### **The Wildlife Protection (Amendment) Bill, 2013 (pending)**

- The Wildlife (Protection) Amendment Bill, 2013 was introduced in the Rajya Sabha on August 5, 2013. The Bill has been referred to the Standing Committee on Environment and Forests. The Bill seeks to amend the Wild Life (Protection) Act, 1972. This Act provides for the protection and conservation of wild animals, birds and plants. It also covers the management of their habitats and regulation and control of trade of commerce linked to wildlife. According to the government, India is a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITIES) and amendment to the Act are necessary for India to fulfil its obligations under the CITIES.
  - **1980** – The Forest (Conservation) Act and Rules, 1981, provides for the protection of the conservation of the forests.

### **Environmental laws related to Water**

- **1882** – The Easement Act allows private rights to use a resource that is, groundwater, by viewing it as an attachment to the land. It also states that all surface water belongs to the state and is state property.
- **1897** – The Indian Fisheries Act establishes two sets of penal offences whereby the government can sue any person who uses dynamite or other explosive substance in any way (whether coastal or inland) with intent to catch or destroy any fish or poisonous fish in order to kill.
  - **1956** – The River Boards Act enables the states to enroll the central government in setting up and Advisory River Board to resolve issues in inter-state cooperation.

- **1970** – The Merchant Shipping Act aims to deal with waste arising from ships along the coastal areas within a specified radius.

Water (Prevention and Control of Pollution) Act, 1974 and Rules 1975, The Water (Prevention and Control of Pollution) Act was passed in 1975. It was the first legislation which systematically dealt with issues of water pollution in India. It is expansive and applies to streams, inland waters, subterranean waters and sea or tidal waters. The Act works through a system of “command and control” by establishing State Pollution Control Boards which prescribes standards of discharge and exceeding such standards are met with penalties which include fines and imprisonment.

- The Water (Prevention and Control of Pollution) Act, 1974 was an effort to reduce and stop pollution in rivers. It establishes an institutional structure for preventing, abating water pollution and standards for water quality and effluent. Polluting industries must seek permission to discharge waste into effluent bodies. The CPCB (Central Pollution Control Board) was constituted under this act.
- **1977** – The Water (Prevention and Control of Pollution) Cess Rules contains the standard definitions and indicate the kind of and location of meters that every consumer of water is required to affix.
- **1991** - The coastal regulation zone notification puts regulation on various activities, including construction, are regulated. It gives some protection to the backwaters and estuaries.

### **Environmental laws related to the Environment protection / Air Pollution**

- **1948** – The Factories Act and Amendment in 1987 was the first to express concern for the working environment of the workers. The amendment of 1987 has sharpened its environmental focus and expanded its application to hazardous processes.
- **1981** – The Air (Prevention and Control Pollution) Act, 1981 was enacted to by the Central Government in pursuance to the Stockholm Declaration in 1972. The Act is

mirrored on the Water (Prevention and Control of Pollution) Act, 1974. The Act has been passed by the Central Government but the executive functions are carried out by the State Pollution Control Boards (SPCB). The Act provides for the control and abatement of air pollution. It entrusts the power of enforcing this act to the Central Pollution Control Board (CPCB). It was made to take appropriate steps for the preservation of the natural resources of the earth which, among other things, includes the preservation of the quality of air and control of air pollution. It became the first environmental act to put into words the complete spectrum of environmental issues affecting the air pollution and also gave guidelines. This not only protected the air but also improved its quality. The act must be lauded for an all-inclusive outlook towards defining key environmental terms.

- **1982** – The Atomic Energy Act deals with the radioactive waste.
- **1986** – The Environmental (Protection) Act, 1986 was enacted in pursuance to the Stockholm Declaration, 1972 which India was a signatory to. The Ministry of Environment and Forest was created in 1985, and thus the Environment (Protection) Act was legislated as umbrella legislation for environmental protection and regulation of development activities. After the Bhopal Gas Tragedy which took place in 1986, there was a sense of urgency to prevent such catastrophic incidents by creating a mechanism of co-operation in planning, policy making and co-ordination of action between the Central and State Governments. The purpose behind creating the Act was to give force to the Article 48(A) of the constitution of India which states “Protection and improvement of environment and safeguarding of forests and wild life .The State shall endeavour to protect and improve the environment and to safeguard the forest and wildlife of the country”. The Act also gave force to Article 51 (A) (g) of the Constitution of India.
- The Environment (Protection) Act (EPA), 1986, was the first Indian legislation to deal with environment protection and its components in a holistic way. However, many critics say that it was the Bhopal tragedy that precipitated the enactment of the legislation. The EPA provided

a framework for management of hazardous substance, prior assessment of the environmental impact of major development projects, discharge of industrial pollutants and effluents into the environment, guidance for industrial siting, and management of chemical accidents. The EPA takes away the independence of the States with regards to action and legislation towards issue of the environment. The Act requires the State to get clearance from the Centre to flag off projects. This political invasion leads to many foreseeable delays.

- **1988** – The Motor Vehicles Act states that all hazardous waste is to be properly packaged, labeled, and transported.
- **1991** – The Public liability Insurance Act, 1991 came on the heels of the Bhopal Gas tragedy. Its main aim was to provide relief to victims of industrial disaster victims. It became obligatory for industrial set-ups to obtain insurance which was equivalent to the capital needed to establish the industry. The District Administration was responsible in giving compensation to the affected person in reasonable time. The Public liability Insurance Act (PLIA) was passed in 1991. The basis for the Act is ‘No Fault Liability’.

#### **Taj Trapezium Notification (1998)**

The Central Government has constituted an authority known as the Taj Trapezium Zone Pollution (Preventing and Control) Authority. This authority is empowered to monitor the implementation of various schemes for the protection of the Taj Mahal and protection and improvement of the environment in the Geographical limits of the Taj Trapezium.

#### **The Biological Diversity Act, 2002**

India is a party to the convention of Biological Diversity, 1992 which gives every nation, which has ratified the Convention, the right of sovereignty over its natural resources. In pursuance of the same India created an umbrella act which is the Biological Diversity Act, 2002. The Act fulfills its obligations under the Convention of Biological Diversity; harness India's natural resources in a sustainable, conserve natural resources, facilitate access to the resources in a just manner, sharing

benefits arising out of such access and use, use of natural resources for commercial and research purposes of bio-survey and bio-utilization, and transfer of research results and application for intellectual property rights (IPRS) relating to Indian biological resources.

### **The National Biodiversity Authority (NBA)**

- The National Biodiversity Authority has been established in Chennai, Tamil Nadu in October, 2003 pursuant to the Biological Diversity Act, 2002. Since its establishment, NBA has supported creation of State Biological Boards (SBBs) in 26 States and, facilitated establishment of around 32,796 Biodiversity Management Committees. It performs function like laying down procedures and guidelines to govern the activities like obtaining any biological resource, transferring the results of any research and certain collaborative research projects exempted. The NBA advises the Government of India on specific areas like notifications of threatened species, designate institutions as repositories for different categories of biological resources and exempt certain biological resources, normally traded as commodities.

### **National Green Tribunal (NGT)**

- The Lok Sabha passed the National Green Tribunal (NGT) Act of 2000 on 18 October 2010. It replaced the National Environment Tribunal Act, 1955, and the National Environment Appellate Authority Act, 1997. It encompasses within it the Fundamental Right to a Healthy Environment that is enshrined in the Indian Constitution under Article 21 (66). The Supreme Court of India interpreted Article 21 which guarantees the fundamental right to life and personal liberty, to include the right to a wholesome environment and held that a litigant may assert his or her right to a healthy environment against the State by a writ petition to the Supreme Court or a High Court. It heralded a new dawn in environmental protection. Tribunal in essence is a fast track court specialization in dispensing justice on environmental issues thus displacing the burden that the Indian courts are bearing at this moment and giving judicial legitimacy to principle 13 of the Rio Declaration. After Australia and New Zealand, India is the third

country to have a dedicated all-encompassing Green Tribunal.

Public interest litigation has been used by the higher judiciary to ensure environment protection and safeguard public interest. India has now become the third country in the world to start a National Green Tribunal (NGT) which is a judicial body exclusively meant to judge environment cases. The National Green Tribunal has been established under the National Green Tribunal Act, 2010 for effective and expeditious disposal of cases relating to environment protection and conservation of forest and other natural resources. The Tribunal is mandated to make and Endeavour for disposal of applications or appeals finally within 6 months of filing of the same. The predecessor to the NGT, the erstwhile National Environment Appellate Authority has been superseded by the NGT.

### **Green Bench**

- On April 16, 1996, a division bench of the Supreme Court (SC) directed the chief justice of the Calcutta High Court to constitute a special division bench to hear environment-related petitions – and the nation's first green bench was born. The SC has directed this bench to meet once a week. The green bench of the Supreme Court will continue to oversee matters relating to sanctuaries and national parks as wildlife is not part of the NGT's jurisdiction.

### **Environment Impact Assessment**

**Definition:** Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. UNEP defines Environmental Impact Assessment (EIA) as a tool used to identify the environment, social and economic impacts of a project prior to decision-making.

- In India the Environment Impact Assessment (EIA) has been used as a management tool to minimize adverse impacts of the development projects on the environment and to achieve sustainable development through timely, adequate, corrective and protective mitigation

measures. A beginning in this direction was made in our country with the impact assessment of river valley projects in 1978-79 and the scope has subsequently been enhanced, the Ministry of Environment and Forests (MoEF) has used Environmental Impact Assessment as a major tool to cover and regulate industrial development sectors of the country such as industries, thermal power projects, mining schemes etc. for minimizing the adverse impact on environment and reversing the trends which may lead to climate change in long run. The Ministry has so far constituted twenty seven State/UT level Environmental Impact Assessment Authorities (SEIAAs) EIA has now been made mandatory under the Environmental (Protection) Act, 1986 for 29 categories of development activities involving investments of Rs. 50 crores and above.

#### **National Environment Policy (NEP), 2006**

- The National Environment Policy, launched in 2006 seeks to extend the coverage, and fill in gaps that still exist, in the light of present knowledge and accumulated experience. The National Environment Policy (NEP) is also intended to be a statement of India's commitment to making a positive contribution to international efforts. This is a response to our national commitment to a clean environment, mandated in the Constitution in Articles 48 A and 51 A (g), strengthened by judicial interpretation of Article 21. It is recognized that maintaining a healthy environment is not the state's responsibility alone, but also that of every citizen. The National Environment Policy is intended to be a guide to action: is regulatory reform, programmes and projects for environment conservation; and review and enactment of legislation, by agencies of the Central, State, and Local Governments. The dominant theme of this policy is that while conservation of environmental resources is necessary to secure livelihoods and well-being of all, the most secure basis for conservation is to ensure that people dependent on particular resources obtain better livelihoods from the fact of conservation, that from degradation of the resources.

- **Recently** government constituted a high-level committee to review various environment laws in order to bring them in line with current requirements. The government taking serious measures to fasten the environment clearance process for achieving economic growth without compromising green issues. The four-member panel, headed by former Cabinet Secretary TSR Subramanian, has been asked to review five key green laws concerning protection and conservation of environment, forest, wildlife, water and air among others. The panel will review the important green laws enacted between 1971 and 1986. These laws include Environment (Protection) Act, 1986, Forest (Conservation) Act, 1980, Wildlife (Protection) Act, 1972, The Water (Prevention and Control of Pollution) Act, 1974 and The Air (Prevention and Control of Pollution) Act, 1981.

#### **National Action Plan on climate Change**

- The National Action plan on Climate Change (NAPCC) was released on 30th June, 2008 to state India's contribution towards combating and climate change. The plan outlines Eight National Missions running through 2017. The Ministries involved submitted detailed plans to the Prime Minister's Council on Climate Change in December 2008. The NAPCC consists of several targets on climate change issues and addresses the urgent and critical concerns of the country through a directional shift in the development pathway. It outlines measures on climate change related adaptation and mitigation while simultaneously advancing development. The Missions from the core of the Plan, representing multi-pronged, long termed and integrated strategies for achieving goals in the context of climate change

**The National Action Plan focuses attention of 8 priorities National Missions. These are:**

#### **I. National Solar mission (ministry of New and Renewable Energy)**

The ultimate objective is to make solar energy competitive with fossil-based energy options. By increasing the share of solar energy in the total energy mix, it grass roots level. Another aspect of the mission is to launch an R&D

programme facilitating international co-operation to enable the creation of affordable, more convenient solar energy system and to promote innovations for sustained, long –term storage and use of solar power.

## **II. National Mission for Enhanced Energy Efficiency (Ministry of power)**

The Energy Conservation Act of 2001 provides a legal mandate for the implementation of energy efficiency measures through the mechanisms of **The Bureau of Energy Efficiency (BEE)** in the designated agencies in the country. A number of schemes and programmes have been initiated which aim to save about 10,000 MW by the end of the 11th Five-Year Plan in 2012.

## **III. National Mission on Sustainable Habitats (Ministry of Urban Development)**

This Mission was launched to make habitats sustainable through improvements in energy efficiency in buildings, management of solid waste and a modal shift to public transport. It aims to promote energy efficiency as an integral component of **urban planning and urban renewal** through its initiatives.

## **IV. National Water Mission (Ministry of Water Resources)**

By 2050, India is likely to be water scarce. Thus, the Mission aims at conserving water, minimising wastage, and ensuring more equitable distribution and management of water resources. It also aims to **optimize water use efficiency by 20%** by developing a framework of regulatory mechanisms. It calls for strategies to accommodate fluctuations in Rainfall and river flows by enhancing water storage methods, rain water harvesting and more efficient irrigation systems like drip irrigation.

## **V. National Mission for Sustaining the Himalayan Ecosystem (Ministry of Science and Technology)**

The Himalayan eco-system is vital to preserving the ecological security of India. Increases in temperatures, changes in precipitation patterns, drought and melting of glaciers are obvious threats. The Mission calls for empowering local communities especially Panchayats to play a greater role in managing

ecological resources. It also reaffirms the majors mentioned in the **National Environment Policy, 2006**.

## **VI. National Mission for a Green India (Ministry of Environment Forest)**

The Ministry aims at enhancing ecosystem services such as carbon sinks. It builds on the **prime Minister's Green India Campaign** for afforestation and increasing land area under forest cover from 23% to 33%. It is to be implemented through Joint Forest Management Committee under the respective State Departments of Forests. It also strives effectively implement the Protected Area System under the National Biodiversity Conservation Act, 2001.

## **VII. National Missions for Sustainable Agriculture (ministry of Agriculture)**

The Missions aims to make Indian **agriculture more resilient to climate change** by identifying new varieties of crops (example: thermally resistant crops) and alternative cropping patterns. This is to be supported by a comprehensive network of traditional knowledge, practical systems, information technology and biotechnology. It makes suggestions for safeguarding farmers from climate change like introducing new credit and insurance mechanisms and greater **access to information**.

## **VIII. National Mission on Strategic Knowledge on Climate Change (Ministry of Science and Technology)**

The aim is to work with the global community in research and technology development by collaboration through different machanisms .it also had its own research agenda supported by climate related institutions and a **Climate Research Fund**. It also encourages initiatives form the private sector for developing innovative technologies for mitigations and adaptation.

## **A Ninth Mission – Government to Prepare a National Bio-energy Mission (Ministry of New and Renewable Energy)**

The mission, to be launched during the 12th Five-Year Plan, will offer a policy and regulatory environment to facilitate large-scale capital investments in biomass-fired power stations.

**Green India Scheme:** The Scheme Green India is being run by the Ministry of Environment and Forests. The National Mission for Green India is a new initiative by the Ministry of Environment and Forest under the National Action Plan for Climate Change (NAPCC) which is implemented throughout the country. The mission aims to increase forest & tree cover on another 5 million ha area, ameliorate forest based livelihood of local communities and also to improve ecosystem services such as carbon sequestration, biodiversity & hydrological services. During 2011-12 Rs. 49.94 crores was released to 21 States for carrying out preparatory activities under the Green India Mission.

### **CONSTITUTIONAL GUARANTEE FOR ENVIRONMENTAL PROTECTION**

1. The State's responsibility with regard to environmental protection has been laid down under Article 48-A of our Constitution, which reads as follows: "The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country".

2. Environmental protection is a fundamental duty of every citizen of this country under Article 51-A(g) of our Constitution which reads as follows: "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures".

3. Article 21 of the Constitution is a fundamental right which reads as follows: "No person shall be deprived of his life or personal liberty except according to procedure established by law."

4. Article 48-A of the Constitution comes under Directive principles of State Policy and Article 51-A (g) of the Constitution comes under Fundamental Duties.

5. The State's responsibility with regard to raising the level of nutrition and standard of living and to improve public health has been laid down under Article 47 Of the Constitution which reads as follows:

6. "The State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of

intoxicating drinks and of drugs which are injurious to health."

7. The 42nd amendment to the Constitution was brought about in the year 1974 makes it the responsibility of the State Government to protect and improve the environment and to safeguard the forests the forests and wildlife of the country. The latter, under Fundamental duties, makes it the fundamental duty of every citizen to protect and improve.

### **The Subjects Related to Environment in the Seventh Schedule\*\* of the Constitution:**

- As conferred by Article 246(1), while the Union is supreme to make any law over the subjects enumerated in List I, the States, under Article 246(3), enjoy competence to legislate on the entries contained in List II, and both the Union and the States under Article 246(2) have concurrent jurisdiction on entries contained in List III. In the event of a clash, the Union enjoys a primary over States in that its legislation in the Union and the Concurrent List prevails over State legislation. Also, the Parliament has residuary powers to legislate on any matter not covered in the three Lists (Art. 248).

### **Laws for the Schedule Tribes**

- Dr. B.R. Ambedkar, was also the mass leader of the "Depressed Classes". Under his auspices, the Constitution of India created a few protective devices for the Schedule castes and Schedule Tribes.
- The makers of the constitution approached the issues of upliftment of the Depressed Classes with three goals. Protection against social malice's which constituted in post independent India. These measures forced the citizens of Indian into eliminating practices which allowed prejudices, harassment, and unequal treatment towards the Schedule Castes and Tribes. In the years after independence a number of laws were passed which enforced principles of equality. These were The Untouchability Practices Act, 1955, Scheduled Caste and Scheduled Tribe (Prevention of Atrocities) Act, 1989, The Employment of Manual scavengers and Construction of Dry latrines (Prohibition) Act, 1993, etc.

- **The Schedule tribes and Other Traditional forest Dwellers Act**, also referred as Forest Rights Act (FRA), 2006 (Defines community Forest Resources, Critical Wildlife Habitats, provides ownership of minor forest produce to the local communities, and provides tenurial security for forest dwelling communities) The functioning of the provisions is also linked with performance of the ecosystem in terms of delivery the ecosystem services for livelihoods.

#### Highlights of the Bill

- The Schedule Tribes (Recognition of Forest Rights) Bill, 2005 seeks to recognise forest rights of forest dwelling Scheduled Tribes (FDSTs) who have been occupying the land before October 25, 1980.
- An FDST nuclear family would be entitled to the land currently occupied subject to a maximum of 2.5 hectares. The land may be allocated in all forests including core areas of National Parks and Sanctuaries.
- In core areas, an FDST would be given provisional rights for five years, within which period he would be relocated and compensated. If the relocation does not take place within five years, he gets permanent right over the land.
- The Bill outlines 12 forest rights which include the right to live in the forest, to self cultivate, and to use minor forest produce. Activities such as hunting and trapping are prohibited.
- The Gram Sabha is empowered to initiate the process of determining the extent of forest rights that may be given to each eligible individual or family.

#### Key Issues and Analysis

- There are no reliable estimates of the likely number of eligible families although the Bill proposes to vest forest land rights to FDSTs. Therefore, it is not known whether there could be significant risk to existing forest cover.
- If FDSTs in core areas are not relocated within five years, it could lead to loss of forests, which are crucial to the survival of certain species of wildlife. Large scale relocation, on the other hand, could result in possible harassment of FDSTs.

- Communities who depend on the forest for survival and livelihood reasons, but are not forest dwellers or Scheduled Tribes, are excluded from the purview of the Bill.
- The Bill specifies October 25, 1980 as the cut-off date to determine eligibility. However, it does not clarify the kind of evidence that would be required by FDSTs to prove their occupancy.
- Terms such as “livelihood needs” have not been defined. This could lead to litigation and delay in implementation.

#### The Statutory Guarantees for Schedule Tribes

The long standing issue of the forest rights of the Tribes gave way for the Government of India to enact the “The Schedule Tribes and other Traditional Forest Dwellers (recognized of Forest Rights) Act 2006”. The activists who support this Act believe this legislation gives the Tribals and other “traditional forest dwellers” this stature of being stakeholders in the forests of India. This stature helps the not be labeled as encroachers and are given protection to not be evicted and be compensated from the forests which will be legally cleared for modern development. Tribal right activists will secure tenurial rights for these Tribals which will allow them to manage land sustainably using traditional methods. The Act loses steam when it comes to execution. Only those tribal families will benefit from the Act if three or more generations (nearly 75 years) of the family have resided in the forests. This creates a broader issue of who exactly come into the fold of the legislation. This builds up pressure on the verification process of these families because the parameters have not been defined

Through the Gram Sabha (Village Self Government) of the Tribal community must give accent to such development, this particular body can be manipulated because they are headed by people who might not be educated with the tools of mainstream India. The Forest Department of India is also another bureaucratic body with enough power to either make a difference by implementing the Act as it should be or deny the Tribals their rights by twisting the words of the Act in their favour

- The Indian Government in 1996 passed The Panchayat (Extension to Schedule Areas) commonly known as PESA. This Act would

give the Tribals, the much needed right their own land and natural resources independently but this right has not been implemented. The lands then become contentious and vulnerable, opening them to corporates who defy rules to exploit them.

### **Madhav Gadgil Report on protection of the Western Ghats and other forest areas.**

- The Western Ghats Ecology Expert Panel (WGEEP), also Known as the Gadgil Commission after its chairman Madhav Gadgil, was an environmental research commission appointed by the Ministry of Environment and Forests of India. The commission submitted the report to the Government of India on 31 August 2011. The Expert Panel approached the project through a set of tasks such as:

1. Compilation of readily available information about Western Ghats
2. Development of Geo-spatial database based on environmental sensitivity, and
3. Consultation with Government bodies and Civil society groups

The Christian churches in Kerala and Christian organization strongly protests the implementation of the report since most of the farmers in the hilly regions are Christians, especially in Wyanad. During the 20th century, a very large number of Christians had migrated from Travancore and acquired forest land in Wyanad and other areas with abundant forest and waste land, in what is known as Malabar Migration. The Gadgil Committee report was criticized for being more environment-friendly and not in tune with the ground realities. However the report was considered by UNESCO, which added the 39 serial sites of the Western Ghats on the World Heritage List.

### **Ref to the box material given in the earlier portion of the write-up.**

- **Kasturirangan Report:** The Kasturirangan panel has sought to balance the two concerns of development and environment protection, by watering down the environmental regulation regime proposed by the Western Ghats Ecology Experts Panel's Gadgil report in 2012.

The Kasturirangan report seeks to bring just 37% of the Western Ghats under the Ecologically Sensitive Area (ESA) zones-down from the 64% suggested by the Gadgil report. Dr. V.S. Vijayan, member of the Western Ghats Ecology Experts Panel (WGEEP) said recommendations of the Kasturirangan report are undemocratic and anti-environmental. A crucial report on Western Ghats prepared by K. Kasturirangan led high-level working group (HLWG) has recommended prohibition on development activities in 60,000 sq km ecologically sensitive area spread over Gujarat, Karnataka, Maharashtra, Goa, Kerala, and Tamil Nadu.

- The Gadgil panel had recommended a blanket approach consisting of guidelines for sector-wise activities, which could be permitted in the ecological sensitive zones. The union ministry of environment and forests (MoEF) has finally buckled under pressure from state governments who had vociferously opposed the Madhav Gadgil report on Western Ghats. The ministry on Wednesday informed the National Green Tribunal (NGT) that it is not processing the Madhav Gadgil report on Western Ghats any further and that it is instead examining and processing the report of the high-level working group (HLWG) headed by Dr. K Kasturirangan. Interestingly, Madhav Gadgil himself in an open letter last year slammed K Kasturirangan for diluting his report with a subsequent report. The environment ministry move simple means that a huge area of the ecological sensitive Western Ghats area, which run across several states including Maharashtra, would be open to activities like dams, mining, power plants and irrigation projects.

- The report has identified nearly 4,156 villages as eco-sensitive zones, including 99 villages in Goa. The minister has also assured rationalizing of mining norms in eco-sensitive areas. State government has urged the Union Ministry to allow phasing out of existing mining leases within one km of wildlife sanctuaries and national parks rather than stop them abruptly. There are 23 mining leases within a km of wildlife sanctuaries. There are total six state along the Western Ghats that have been including in the report – Goa, Kerala, Karnataka, Tamil Nadu, Maharashtra and Gujarat.

## **What is the difference between the two reports?**

- Gadgil report divided Western Ghats spreading over an area of 1,64,280 square km across six states into three ecologically sensitive zones and recommended large scale measures to control environment degradation in the ecologically sensitive area. It recommended that no clearance be given to dams in some parts of Western Ghats and for Goa it called for an indefinite moratorium on clearance for mining. For Ratnagiri and Sindhudurg districts of Maharashtra, it said that no new coal based thermal power plants should be allowed. Kasturirangan panel in its report, however, termed 60% of Western Ghats into cultural landscape (human settlements, agriculture, plantations) and rest 40% as biologically rich natural landscape. It termed around 37% of Western Ghats, around 60,000 square km area, as ecologically sensitive area and recommended to environment ministry to notify it.

## **Can mining or construction start? When does it come into effect?**

No mining or any construction activity can start as of now. MoEF has only cleared its position regarding multiple reports on Western Ghats in front of NGT where it revealed this. MoEF has said that they have invited comments from various stakeholders including state governments on the draft notification it had issued earlier in March. MoEF's final decision would also be based on views of states which have been exerting huge political pressure on central government due to which UPA had not taken a call on it.

## **Which companies are likely to benefit?**

If MoEF notifies a final policy regarding Western Ghats in accordance with Kasturirangan report, then a huge area of Western Ghat would be open for developmental work. At that time, the companies that are involved in construction activities (like dams) or mining would receive a major benefit. Besides them, other industries active in those areas would also get a breather.