SESSION 11
Legal and Policy Frameworks related to Wildlife Conservation

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1. Wildlife Conservation Laws and Policies

1.1. Introduction

The term ‘Wild Life’ was coined by William Hornady in 1913 in his book "Our vanishing Wild Life". Wild Life implies to all the biotic elements on the Earth including all species of plants, animals, birds and microbes of the world excluding man, domestic animals and cultivated plants. Therefore the wild life means the total natural biodiversity ranging from tiny microbes to mighty mammals. Wild life is considered as a renewable resource.

Fluctuation in the population of wildlife is a natural phenomenon. However, when the decline in the wildlife population occurs due to unnatural or artificial reasons, one can be sure that the future of not only such species that are affected by the decline, but also of the entire human race is in danger. Habitat degradation and other disturbances can have adverse effect on the natural population of wildlife.

The rapid rate of extinction of many species of animals and plants is an increasing concern. Habitat preservation and enhancement are critical to existence of wildlife in an area. Animals cannot live in an area that does not provide proper food, cover, water and special needs to which the creatures are suited for. People's activities alter many habitats, which acts as a detriment to Wildlife.

Humans and wildlife have led intermingled lives since cetuaries. Forests have been viewed as the primary sources of wildlife, both for direct use as live animals as well as for use as food and trophies. However, people often forget that forests are not to be understood as sources of wildlife but must be envisioned as the home of numorous species of animals, birds and plants.

The term ‘Wildlife’ is a part of the much larger term - Biodiversity. The term Biodiversity refers to the variety of life forms, from genes to species to broader scale of ecosystems. In other words, it means variety and variability among living organisms, their genetic differences and the ecosystems in which they live. This living wealth of earth is the outcome of millions of years of evolutionary history.

The distribution of wildlife is uneven on the earth because of the different environmental conditions. Warm humid tropical areas (lying between tropic of Cancer and Capricorn) are rich in biodiversity compared to temperate and polar areas. The countries like Brazil, Columbia, Mexico, Indonesia, Peru, Malaysia, Ecuador, India, Zaire, Madagascar and Australia are known as **Megadiversity countries** because of their rich biodiversity.

- **Levels of Diversity**

Biodiversity is often considered at three fundamental levels - genetic, species and ecosystem level.

1. ***Genetic diversity***: It refers to genetic differences within each species i.e. differences at the level of genes. For example, varieties of crops, strains of microbes or breeds of livestock. According to an estimate there are 10 billion different genes distributed across the world's living organisms. More genetic diversity within a species means greater variability and adaptability of individuals to environmental conditions. Lesser genetic diversity on the other hand leads to uniformity and thus greater susceptibility to environmental changes. Monocultures (genetically similar crops or trees) are known to be more susceptible to environmental changes compared to mix-cultures (genetically different crops or trees) because of little genetic diversity in them. The genetic variations can be measured using a variety of DNA-based and other techniques.

2. ***Species diversity*****:** It refers to the variety of species of animals, plants or microorganisms found on the earth. Biodiversity term is mostly considered as a synonym to species diversity. It is very important level of biodiversity since it is easier to work with it and the species can be seen with the naked eyes unlike genetic diversity that can be worked out only in the laboratories. There is a wide difference in the various estimates for the total number of species found on this earth (this varies from 5 to 100 million). However, so far nearly 1.7 million species have actually been described. Species diversity can be measured in a number of ways. Most of these ways can be classified into three groups of measurements - species richness, species abundance and taxonomic diversity. Wildlife is contained mostly in species diversity.

3. Ecosystem diversity: It includes various types of ecosystems and the diversity of habitats and ecological processes occurring therein. Examples of various ecosystems are coral reefs, tropical rain forests or temperate rain forests and these are based on the major communities. The measurement of biodiversity within an ecosystem is a difficult task because of their complex nature.

- **Importance of Wildlife**

Wildlife is important due to numerous reasons, four of which are listed below:

1. **Beauty:** By their unique way of existence, wild creatures exaggerate the natural beauty of the earth.

2. **Economic value:** The financial value of wild species is important to the economies of several nations, as it provides many valuable substances like wood and other plant products, fibers, meat and other kinds of products.
3. **Scientific value:** By studying wildlife, scientists have gained valuable knowledge about various life processes and discovered important medical products. Wildlife conservation is necessary because it controls the ecological balance, maintains food chains/webs, bio-geo-chemical cycles, and it is the principal source of gene bank.
4. **Survival value:** Wildlife helps in maintaining the balanced living systems of earth, sustaining the food chain *etc*., which consequently ensures survival of life. Wildlife is a source of food, medicines as well as our basic survival.
5. **Ecological Services** – Wildlife provides us various ecosystem services that sustain our life. Some of these services include conservation of water, soil and other natural resources.

During the recent times major focus is to assign the value to wildlife. However, there exists conflict whether to assess it in terms of monetary value or ecological services.

1.2. Key threats to Wildlife

Rapid loss in wildlife world wide could be attributed to the following reasons:

1. Loss of Habitat – Owing to population explosion in humans and lack of space, fewer natural wildlife habitat areas are left each year. The habitats that remains are often further degraded to bear little resemblance to the natural wild areas which existed in the past. In many areas, only islands of habitat remain, isolated in the middle of large agricultural or urban developments, thus preventing normal interactions, healthy breeding or safe travel for many species. Some wildlife species are adaptable to many conditions, but other creatures have very specific plant, moisture and temperature requirements. These are the endangered species which we risk losing if we don't preserve adequate amounts of habitat for their survival.

A number of species have lost their habitat because of increased human interference like construction of dams, roads, railway tracts or bridges across natural ecosystems, mining activity or industries. Habitat fragmentation due to deforestation or any other biotic stress has caused much harm to precious biodiversity. Deforestation rate is increasing due to burgeoning population and this has destroyed the natural homes of species. In fresh water ecosystems, construction of dams has destroyed large habitat of hundreds of aquatic flora and

fauna. Likewise, in marine ecosystems, the coastal development has affected the communities, particularly species rich ecosystems like coral reefs.

2. Climate Change - Since various types of plants and animals have specific habitat requirements, climate change causes disastrous losses of wildlife species. It is feared that a one or two degree change in average annual temperature will translate into large changes affecting drastic change in the climatic conditions further resulting in ecological imbalances.

3. Pesticides and Toxic Chemicals - Pesticides are deliberately spread to make the environment toxic to certain plants, insects or rodents, so it shouldn't be surprising that other plants and wildlife are often harmed at the same time. While many of the worst pesticides have been outlawed in the past thirty years, scientists have found numerous worries with several pesticides which are still legal and commonly used. In addition, many chemical pollutants are toxic to wildlife, such as polychlorinated biphenyls (PCBs), mercury, petroleum byproducts, solvents, anti-freeze, etc.

Excessive use of synthetic chemicals as herbicides, pesticides and insecticides has polluted the soil and water environment and greatly threatens the diversity and richness of the species. Due to increased industrialization, the intensity of the acid rain has increased and greatly affected the natural vegetation and the forests in different regions of the world.

4. Non-native Species – Non-native species are those class of organisms that are not traditionally found in the local area. These "aliens" are often aggressive competitors with native wildlife, or predatory, especially after they've left their own natural environments and controls. They are responsible for spreading diseases, acting as parasites or at times even causing the extinction of the native species.

They are also termed as exotic species are those which have been introduced either purposely or entered accidentally in some environmentally distinct zone from the other geographically different areas. They have caused much harm to native plant communities than expected and enhanced the extinction (loss of species) rate. The phenomenon is more common on the islands or isolated ecosystems. A number of example exist world over when an introduced species has become a serious pest or problem. For example, *Lantana camara* introduced as an ornamental hedge in India has now become a serious invader of forests. The example of accidental entry is the Congress grass (*Parthenium hysterophorus*) that is now a major problematic weed in India, Australia and other parts of the world. A number of reasons such as fast growth, rapid colonization, better and efficient resource

utilization, wider adaptability and the absence of natural enemies in the invaded areas.

5. Environmental Pollution - Air, water, and soil pollution is one of the major reasons for wildlife loss in the modern era. Modernization, urbanization, increasing population, and changing life style are some of the prime reasons for the increased levels of pollution in the natural environment. It has not only affected the number of existing species but has also caused the loss of a variety of species that could not tolerate the increased pollutant levels in the atmosphere and have gone extinct.

6. Overexploitation - Some of the species have become threatened and even gone extinct due to their over exploitation by the humans for their food, feed or some other beneficial purpose. In fact, a number of ecosystems have got damaged both in terms of number and variety of species that these are beyond repair in the near future.

7. Other Factors

- Poaching by man for meat, skin, sport etc. This picture was worsened when modern hunting instruments, guns were invented
- Overgrazing by domestic animals.
- Change of migratory route.
- Introduction of exotic species and export of some species.
- Overexploitation of natural products.
- Mismanagement

The precious wealth of wildlife is at risk as a number of species of animal, plants or microbes are shrinking and becoming rare and threatened with extinction (complete loss of species from natural habitats). The extinction rate has substantially increased over the past few decades (currently 1,000 and 10,000 times greater than the natural one). As a result a number of valuable species are at risk of extinction.

Looking at the grave situation of world biodiversity, IUCN (International Union for Conservation of Nature and Natural Resources) now known as The World Conservation Union prepared a list of species (plants or animals) showing various categories of extinction risk. These documents are known as **Red Lists**. In these documents, IUCN has assessed status of world taxa threatened with extinction with a view to promote their conservation. The red lists on animals and plants threatened with extinction were first published in 1988. Since then, a number of species have been evaluated with this motive and given ranks as per their

categories and criteria. It has prepared a publication entitled "***2004 IUCN Red List of Threatened Species"*** that has complete information on threatened and endangered species of the world with risk of extinction.

The species have been divided into various categories based on their taxonomy, distribution and conservation status. These categories are:

- ***Extinct (EX)****:* A species is said to be extinct when none of its individual exists either in wild or in cultivation or captivity.

- ***Extinct in Wild (EW)****:* A species is assigned this category when it is known to survive only in cultivation, or in captivity or as a naturalized population well outside its natural range. None of its individual exists under natural condition.

- ***Critically Endangered (CR)****:* When there is 80% reduction in the population of a given species over the last 10 years or three generations, whichever is longer, it is said to be critically endangered.

- ***Endangered (EN):*** A species is said to be endangered when there is a reduction of about 70% in its population over the last 10 years or three generation, whichever is longer.

- ***Vulnerable (VU):*** A species is known to be vulnerable when a reduction of 50% of its population is noticed over the last 10 years or the three generations, whichever is longer.

Besides, there are a few more categories identified by IUCN. These are:

- ***Near Threatened*** **(NT):** Species that are neither CR, EN or VU but the reduction in its population is quite high and close to the above categories, it is said to be *near threatened*.

- ***Least Concern*** **(LC)*:*** A species that is widespread and abundant (not categorized in either of the above categories)

- ***Data Deficient*** **(DD):** Species for which available information is not complete but it is not under extinction risk.

- ***Not evaluated*** **(NE):** Not yet evaluated species are placed in this category.

1.3. Wildlife Conservation

Wildlife is vital for our existence. Its depletion at a faster rate is a cause of concern for everyone. It is thus very important to conserve it and in this direction steps have been taken at the local, regional, national and even at the international levels.

Conservation means protection that is maintained from outside the natural habitat. Conservation of wildlife not only includes the preservation of all species but also the enhancement of wildlife habitat and the control of wildlife problems. Certain issues like consumption and exploitation of wildlife and wildlife products for commercial purposes in also tackled with in its conservation.

Continuous efforts are being made by some anxious wildlife lovers to protect the endangered species of wildlife as well as those that are on the verge of extinction and thus save the world from running out its green heritage.

There are two ways in which conservation techinques can be applied to preserve and sustain the wildlife. They are:

1. ***In situ*** **conservation** – *In situ* is a latin phrase that literally means "in place'. While talking in terms of wildlife conservation, *in situ* means to examine the phenomenon exactly in place where it occurs, without the interference of any special medium. In terms of genetic resources like wildlife, *in situ* conservation is also known as 'on site conservation'. It involves the process of protecting an endangered species of a plant or animal in its natural habitat either by protecting or cleaning up the habitat itself, or by defending the species from being hunted.

   Wildlife conservation is mostly based on *in situ* conservation. The benefit to *in-situ* conservation is that it maintains recovering populations in the surrounding where they have developed their distinctive properties since in such type of a conservation, the protection is maintained inside the natural habitat. That is, it involves the protection of wildlife habitats. The establishment and working of different protected areas like Sanctuary, National park, Biosphere reserve etc. are the different aspects of *in situ* conservation.

   Also, sufficiently large reserves are maintained to enable the target species to exist in large numbers. The population size must be sufficient to enable the necessary genetic diversity to survive within the population, so that it has a good chance of continuing to adapt and evolve over time. This reserve size can be calculated for target species by examining the population density in naturally occurring situations. The reserves must then be protected from intrusion, or destruction by man, and against other catastrophes.

2. ***Ex situ* conservation** – *Ex situ* is also a latin phrase meaning “outside the place”and e*x situ* conservation means "off-site conservation". It is the process of protecting an endangered species of plant or animal by removing part of the population from a threatened habitat and placing it in a new location, which may be a wild area or within the care of humans. While ex-situ conservation comprises some of the oldest and best known conservation methods, it also involves newer, sometimes controversial laboratory methods.

   This type of conservation was initially applied to cultivated plants and domestic animals but nowadays it is used in wildlife conservation as well. Some common examples of *ex situ* conservation are botanical gardens, arboreta and zoological gardens. However, these are the traditional methods of *ex situ* conservation. Here species of plants and animals are conserved by providing the congenial conditions.

   Some other aspects of *ex situ* conservation that are a bit controversial are seed bank or germplasm bank, sperm bank, gene pool bank, captive breeding program, tissue culture, genetic engineering specially cloning *etc*.

   Storing the germplasm in the seed banks helps in conserving rare and endangered species in order to restore genetic diversity. Seeds have a natural tendency to undergo dormancy and hence can be preserved for a longer time. Orthodox seeds that can be dried at low humidity or temperature can be stored for a longer time whereas Recalcitrant seeds that can not be dried at low humidity and temperature are however, difficult to be stored for a longer time. The plants whose seeds can not be conserved in seed banks their vegetative propagating parts such as corms, cuttings, bulbs, tubers and plants or propagules raised through *in vitro* conditions are stored in the gene banks using cryogenic conditions. Likewise, the important animal germplasm like eggs, sperms or embryos can be preserved in the gene banks.

   Several international organizations like CGIAR (Consultative Group on International Agricultural Research), IBPGR (International Board for Plant Genetic Resource) IPGRI (International Plant Genetic Resources Institute), and CIFOR (Center for International Forestry Research) are linked with the *ex-situ* conservation through establishment of gene banks and gene libraries.

During the 1.5-million-year history of the Homo erectus or 250 000 years of the Homo sapiens, other species were either consumable or antagonistic. However, the urge to conserve species other than himself is an atavistic anachronism for the contemporary man.

Safeguarding the habitat is integral to the conservation of any species. As mentioned earlier, safeguarding the habitat forms a part of the *in situ* conservation. It has been estimated that Indian forests supply timber, firewood, bamboo, medicinal plants, and other produce to the tune of 400 billion rupees a year. This amount does not include the value of ecological services provided by forests, including the vital water catchments of our country. Natural forests deserve to be respected and treasured. The needs of people dependent upon forests have to be met, but the bulk of this can be achieved by afforesting the vast amount of degraded land that currently lies barren.

The extension of care to other species has two facets. The first is, in fact, not driven by compassion. Rather it is driven by self-interest of the entire human race. The human race should conserve species so that it can continue to 'use' and ‘be benefited’ by them. The second proposition is a much nobler facet, driven by the realization that all species were created equal and have intrinsic rights to survival and man cannot abrogate the right to cause their extinction. This realization is a significant evolutionary step for humankind

2. The Wildlife in India

2.1. Introduction

India is home to 16 percent of the world's population is a well known fact. However, it is a lesser known fact that 411 species of mammals, 1,232 birds, 456 reptiles, 219 amphibians, 2,546 fish, 83,436 kinds of invertebrates and over 50,000 plant species also call this subcontinent home.

A few countries in the world can match India's astonishing geographical diversity that ranges from rainforests to sand dunes to mangroves to-temperate coniferous forests... all harboring some of the biggest concentrations of endangered wildlife on earth.

The country is the last refuge for a number of highly endangered and threatened species such as the Asiatic lion, lion tailed macaque, pygmy hog, hispid hare and the Gangetic river dolphin.

It is also host to two of the world's 25 biodiversity hotspots, the Himalayas and the Western Ghats, 16 of the world's most important wetlands as defined by the Ramsar convention, including the renowned saltwater Chilika lake in eastern Orissa, and five natural world heritage sites in the UNESCO list that include Keoladeo National Park, Kaziranga National Park, Manas Wildlife Sanctuary, Sundarbans National Park and the Nanda Devi National Park.

While five of the most magnificent parks in India, are covered under the UNESCO list, other sanctuaries are famed as well for their wildlife and glimpses into jungle life.

The Jim Corbett National Park, the oldest park in the country, just a six-hour drive from the national capital New Delhi, is famed for its Bengal tiger and Asiatic elephant. The 520 sq km park, which forms the northwestern limit of the Asian elephant's current range, is home to 112 tigers, the highest density of the wild cat in the world.

The data was compiled by the Wildlife Institute of India with the help of satellite imagery, camera trapping and recording pugmarks. Corbett's famed Dikhala grasslands offer unparalleled elephant viewing and tiger sightings.

The grasslands of western India are as famous for their hunting animals as they are for their grazing herds. The Indian cheetah is now extinct in its range but the other big cats - lions and leopards still prowl the plains.

The Gir Sanctuary in western Gujarat state with its thorny scrub forests and grasslands was once a favourite hunting preserve. The last Asiatic lions still eke out a precarious existence in their thorny scrubland kingdom in Saurashtra, where some 350 odd still exist.

In the eastern Indian state of West Bengal, over 70 percent of the nearly 1,300 species of Indian birds are to be found.

The Manas National Park, designated a World Heritage site in 1985, in the eastern state of Assam is situated on the foothills of the Himalayas and named after the mighty Manas River.

Not far from Manas is the Kaziranga National Park with its elephant grasslands and tropical deciduous forests, situated on the banks of the mighty River Brahmaputra. Also a World Heritage site in Assam, Manas swamps and tall thickets of elephant grass make it an ideal home for the greater one horned rhinoceros - and also tells a remarkable tale of the comeback of the endangered animal.

From five rhinos a century ago, the 430 sq km park today boasts of nearly 70 percent of the world's estimated 2,700 such herbivorous beasts.

There are many others, Sariska in Rajasthan, the Bandhavgarh park in Madhya Pradesh and Periyar in southern Kerala being just some of them.

Like everywhere else, efforts are on in India to conserve its wild world threatened by the demands of development, disasters and destruction.

Wildlife conservation NGOs and the government have been working at different levels to conserve India's vanishing wildernesses. The Wildlife Trust of India (WTI) and the International Fund for Animal Welfare (IFAW), for instance, got together with the Assam Forest Department to set up the Centre for Wildlife Rehabilitation and Conservation (CWRC) in Kaziranga in 2002.

"Each year, CWRC handles nearly 200 cases of animals which are injured, distressed or abandoned in various circumstances and would have died if left alone in the wild," said Dr. Anjan Talukdar, the wildlife veterinarian at the centre.

In February this year, six elephant calves reared at the centre were set free in Manas National Park, making it the first ever attempt in the country to release hand-raised elephant calves back to the wild.

"Besides elephants and other mammals, reptiles, amphibians and avian species are also rehabilitated and hand-raised in the centre," said Talukdar.

The judiciary has also stepped in to save India's wildlife. The interest in conservation has led the Supreme Court to pass a number of significant orders and judgments to save the endangered wildlife.

The Supreme Court, for instance, asked the Jammu and Kashmir government to ban the sale and the manufacture of shahtoosh shawls and stole, made from the wool of the endangered Tibetan antelope chiru.

Hope lies where there is a will and effort to make a change. There was hope for wildlife when children across the world contributed the $1 million, which formed the seed trust for Project Tiger, launched in 1973 by India to save the tiger from extinction.

And there is hope when the apex court adds muscle to the fledgling conservation movement in India

2.2. Flora of India

Plant biodiversity as a national and global resource is extremely valuable but is poorly understood, inadequately documented and often wasted. The preservation of biodiversity is both a matter of investment and insurance to

a) Sustain and improve agricultural, forestry and fisheries production,

b) Act as a buffer against harmful environmental changes ,

c) Provide raw materials for scientific and industrial innovations, and

d) Safe guard transferring biological richness to future generations.

Biodiversity the world over is in peril because the habitats are threatened due to such development programmes as creation of reservoirs, mining, forest clearing, laying of transport and communication networks etc. It is estimated that in the world wide perspective 20,000 flowering plants are threatened with an extinction rate of one per year.

India has an estimated 16,000 vascular plants, 5,000 endemic species and 140 endemic genera. Among plants, species endemism is estimated at 33% (with 140 endemic genera but no endemic families)[1].

Areas rich in endemism are north-eastern India, the southern parts of peninsular India, the Western Ghats and the north-western and eastern Himalaya. A small pocket of local endemism also occurs in the Eastern Ghats. The Gangetic plains are generally poor in endemics, while the Andaman and Nicobar Islands contribute at least 220 species to the endemic flora of India[2].

Most of India's natural vegetation has been greatly modified by agriculture, forestry and urbanization. Over 50% of the land area is cultivated and all forests, particularly moist forest types, are rapidly being degraded as a result of population pressure and shifting cultivation.

A workshop held in 1982 indicated that as many as 3,000-4,000 higher plants may be under a degree of threat in India. Since then, the Project on Study, Survey and Conservation of Endangered species of Flora (POSSCEP) has documented these plants, and published its findings in Red Data Books.

Hubbardia heptaneuron, a species of grass that grew in the spray zone of the Jog Falls prior to the construction of the Linganamakki reservoir, was thought to be extinct but a few were rediscovered near Kolhapur.

The Indian region is an important centre of origin and diversity for nearly 160 domesticated plant species of economic importance, more than 350 species of their wild relatives, and over 800 species of ethno-botanical interest. A National Gene Bank is has been constructed at the National Bureau of Plant Genetic Resources (NBPGR) in New Delhi, having the capacity to house 600,000 seed samples under safe, long-term storage, in vitro conservation and cryo-preservation.

The potential for extensive new biodiversity programmes in India is enormous. New initiatives to strengthen networks of botanic gardens in India are being established for the purpose of plant conservation.

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1 Botanical Survey of India, 1983

2 *Ibid.*

2.3. Fauna of India

India is home to several well known large mammals including the Asian Elephant, Bengal Tiger, Asiatic Lion, Leopard and Indian Rhinoceros. Other well known large Indian mammals include ungulates such as the Watter Buffalo, Nilgai, Gaur and several species of deer and antelope. Some members of the dog family such as the Indian Wolf, Bengal Fox, Golden Jackal and the Dhole or Wild Dogs are also widely distributed. It is also home to the Striped Hyaena, Macaques, Langurs and Mongoose species.

The exploitation of land and forest resources by humans along with hunting and trapping for food and sport has led to the extinction of many species in India in recent times. These species include mammals such as the Indian Cheetah. While some large mammal species are confirmed extinct, there have been many smaller animal and plant species whose status is harder to determine. Many species have not been seen since their description.

Some species of birds have gone extinct in recent times, including the Pink-headed Duck (*Rhodonessa caryophyllacea*) and the Himalayan Quail (*Ophrysia superciliosa*). A species of warbler, *Acrocephalus orinus*, known earlier from a single specimen collected from near Rampur in Himachal Pradesh was rediscovered after 139 years in Thailand. Some of the wildlife species on the brink of extinction include the Bengal Tiger, Asiatic Lion, Leopard, Snow Leopard, Asiatic Elephant, Indian Rhinoceros, Ganges River Dolphin and Red Panda.

India has many rare and unique animals, birds and reptiles. Many of these are protected in National Parks and wildlife sanctuaries in India. Conservation movements and awareness about preserving the environment and the rare and threatened species of animals, birds and reptiles that live in India is slowly increasing.

3. Wildlife Conservation and Constitutional Mandate

3.1. Basic Provisions

There are various provisions pertaining to wildlife under the Constitution of India. List II (State List) of the Seventh Schedule provides for entries pertaining to conservation of wildlife wherein the State can make laws on fisheries as well as to protect, preserve and improve the livestock and prevent animal diseases. The entries are listed as follows:

1. Entry 15: Preservation, protection and improvement of stock and prevention of animal diseases; veterinary training and practice
2. Entry 21: Fisheries

Initially, 'protection of wild animals and birds' was also covered under Entry 20 in the State List. However, after the Constitution (Forty-second Amendment) Act, 1976, the entry was repealed and placed under List III (Concurrent List) as Entry 17-B. Further, List III of the Seventh Schedule also contains the following Entries under which both Centre and State can make laws:

1. Entry 17: Prevention of cruelty to animals
2. Entry 17-A: Forests
3. Entry 17-B: Protection of wild animals and birds
4. Entry 29: Prevention of the extension from one State to another of infectious or contagious diseases or pests affecting men, animals or plants

The Constitution (Forty-second Amendment) Act of 1976 led to the introduction of a new Directive Principle of State Policy [Article 48-A] under Part IV, which imposes a fundamental duty on the State to protect and improve the environment including the wildlife. The said Article provides as under:

Article 48-A – Protection and improvement of environment and safeguarding of forests and wildlife. The State shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.

On the basis of the said provision, the Environment (Protection) Act, 1986 and the Wild Life (Protection) Act, 1972 have been enacted by the Parliament.

The same amendment also introduced a Fundamental Duty upon every citizen of India [51 (A) (g)] under Part IV A which provides as follows:

Article 51(A) (g) – 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.

3.2. Other Provisions

The Constitution of India has basic features in respect of the power of judicial review by the Supreme Court. Under Part III of the Constitution, which guarantees fundamental rights to the people and under Part IV, the State is under obligation to implement the Directive Principles. Article 39-A of the Constitution provides "Right of Access to Courts" to the citizens. In exercise of its powers of judicial review, the Court enforces the constitutional and legal rights of the underprivileged by transforming the right to life under Article 21 of the Constitution and by interpretating the Articles 48-A and 51 A (g) of the Constitution. The Supreme Court of India has given a new dimension to the environmental jurisprudence in India with a view to meeting the problems in the environmental field.

The Public Interest Litigations (PIL) in India initiated by the Supreme Court emerged through human rights jurisprudence and environmental jurisprudence. PIL in Indian Law has been introduced by the judges. The traditional concept of *Locus Standii* is no longer a bar for the community oriented Public Interest Litigations. Not only an aggrieved party, but any environmentally conscious individual, groups or NGOs may have access to the Supreme Court/High Courts by way of PIL. The Supreme Court while taking cognizance on the petitions has further relaxed the requirement of a formal writ to seek redressal before the Court. Any citizen can invoke the jurisdiction of the Court, especially in human rights and environmental matters even by writing a simple postcard.

4. History of Wildlife Conservation

4.1. Introduction

The great paradox of ecological India is how a country so densely populated with humans continues to support such a plethora of large wildlife. But it does, with Indian populations of tigers, elephants, Asian lions, and other large wildlife being some of the best in all of Asia.

Displaying trophies of the hunt is an integral part of many human cultures. Hunting was a part of statecraft in India even before the arrival of the British, which involved displaying power, gathering intelligence, and receiving tribute, as well as, of course, killing many tigers, lions, antelope, and birds. The royal hunt became an essential part of every ruler's repertoire and was embraced wholeheartedly by the British when they arrived.

However, India also has a long history of Wildlife Conservation. The ancient Hindu scriptures directed people to protect the wildlife as well as the environment in general. Buddhism and Jainism also propagate non-violence towards not only humans but also animals, birds and plants. In about 242 B.C., emperor Ashoka's Fifth pillar edict gave protection to fish, animals and forests. Even before that, the Arthashastra by Kautilya provides a clear referece to the establishment of *abhayaranyas* or forest sanctuaries. The Muslim rulers in the medieval period too helped in keeping such treditions alive.

At the same time, the other face of reality shows that a sense of conservation was many a times missing in royal hunts, eventhough in some places, at some times, hunting areas were established to limit off-take. The land set aside for such hunts, which often became incorporated into areas set aside as forest reserves, became the national parks declared with pride by the new Indian state. These parks, with their legacy of British-instituted draconian resource control rules, set the stage for ongoing controversies concerning parks, wildlife, and local peoples.

The philosophy behind the conserved areas in ancient, medieval and pre-independent era is different from the modern concept of conserved areas. The former philosophy was primarily based on recreation and entertainment for the ruling class or the rich and wealthy. Whereas, the latter si proclaimed to be much more wider and advocates comprehensive development of the human society through natural resources and sustainable development. This modern concept of conservation is backed by state laws.

- **The British era**

British arrived in India at around 1600 with the mission of trading goods from India in the form of East India Company. After seeing the immense amount of natural resources and plunders of opportunity to exploit the resources present here, they changed their game plan and started applying coercion so as to complete their aim of exploiting natural resources in India. At the time when British arrived in India, India was divided into several princely states ruled by different rulers. It was quite an easy task for the British to establish itself gradually and astutely.

The early days of British rule in India were days of plunder of natural resources. They started exploiting the rich resources present India by employing the policy of imperialism. By around 1860, Britain had emerged as the world leader in deforestation, devastation its own woods and the forests in Ireland, South Africa and northeastern United States to draw timber for shipbuilding, iron-smelting and farming.

There was a total indifference to the needs of the forest conservancy in the British Period. They caused a fierce onslaught on Indian Forests. The onslaught on the forests was primarily because of the increasing demand for military purposes, for British navy, for local construction (such as roads and railways), supply of teak and sandalwood for export trade an extension of agriculture in order to supplement revenue.

This process greatly intensified in the early years of the building of the railways network after about 1853. While great chunks of forests were destroyed to meet the demand for railway sleepers, no supervision was exercised over the felling operation in which a large number of trees was felled and lay rotting on the road. The sub-Himalayan forests of Garhwal and Kumaon, for example were all felled in even to desolation and thousands of trees were felled which were never removed, nor was their removal possible.

The first step of the British Government to assess state monopoly right over the forest was the enactment the Forest Act, 1865. Hurriedly drafted, the 1865 Act was passed to facilitate the acquisition of those forest areas that were earmarked for railway supplies. It merely sought to establish the claims of the state to the forests in immediately required, subject to the proviso that existing rights would not be abridged. The Act was revised after about thirteen years later in 1878 and extended to most of the territories under the British rule. It also expanded the powers of the state by providing for reserved forest, which were closed to the people and by empowering the forest administration to impose penalties for any transgression of the provision of the Act.

With respect to wildlife protection, legislations were specific to areas and species. The first wildlife legislation of modern India was the Madras Wild Elephant Preservation Act, 1873. The Act, applicable to the state of Madras (now Chennai) was for the protection of wild elephants. The law introduced a general prohibition on destruction of wild elephants and imposed penalty on those who violated the embargo.

The first effort by the Central Government came after six years later by the passing of the Elephant Preservation Act in 1879. This was the first central legislation enacted in India with respect to wildlife. In 1887, the center enacted the Wild Birds Protection Act prohibiting the possession or sale of wild birds. In 1912, the Central Government enacted a broader Wild Birds and Animals Protection Act, which specified closed hunting seasons and regulated the hunting of designated species through licensing. The Indian Forest Act, 1927, was evolved during the pre-independence era but still remains in force. The Act consolidates the provisions of the Indian Forest Act of 1878 and it's amending Acts. The 1927 Act deals with an additional category, namely non-government (private) forests, along with the three listed in the 1878 Act. This Act deals with, for categories of forests, namely, reserved forests, village forests, protected forests, and non-government (private) forests. Any unauthorized felling of trees, quarrying, grazing and hunting in reserved forests is punishable with a fine or imprisonment. Yet another law, for the protection of the wildlife and habitat was the Hailey National Park Act of 1936(which is now called the Corbett National Park).

Hence, to summarize, the central legislations enacted during the British era for the protection if wildlife were as follows:

1. Elephant Preservation Act, 1879
2. World Birds Protection Act, 1887
3. Wild Birds and Animal Protection Act, 1912
4. Indian Forest Act 1927
5. Hailey National Park Act,1936

Indeed, all the statutes related primarily to the regulation of hunting and did not regulate trade in wildlife and wildlife products- both major factors in the decline of Indian Wildlife. As a consequence, wildlife depredation continued and many species became extinct.

This was because, even though it seemed on paper that some very strong steps were taken by the British in order to protect environment from degrading and to preserve it for the future generations, but most of these laws showed their

capability on paper and not on the practical grounds. Many laws and acts enacted by the British in our country proved out to be more useful for British as compared to Indians. They made several laws so as to make their task easy as by that they were able to make use of the resources and degrade environment comfortably and lawfully. Some of the laws were enacted so as to protect the resources from the natives itself, so that the British can utilize them for their own needs which were to gain as much capital from India as possible.

The introduction of Railways in India is indeed a very valuable benefit given by the British to the Indians. However, at the time of its introduction, the intention of the British was never that of benefiting India but for their own benefit. They introduced rail in India so that the resources present in India, especially environmental resources, could be easily reached. They made laws for conserving the forest and in the process marked much of the area as the property of the government so that no one could object as to the use of these forests by the British. Even if some laws were enacted for the benefit of the environment, they were never implemented properly. The punishments prescribed under the laws were not very strict and so the offender was very easily allowed to escape.

Most of the time, the British themselves depleted the resources. The theories like Sovereign Immunity always saved the government from being sued under public offence. The maxims like “King can do no wrong” were applied to its full extent. However, there were still certain laws like Indian Penal Code 1860, and Criminal Procedure Code 1893 that were indeed very effective. The laws made by the British paved a way for the Indians to think and implement new laws for the protection of the environment in the times to come.

4.2. Wildlife Conservation and the present Legislative Action

India is one of the twelve mega diversity countries. Though India contains only 2.4 % of the global space, but it has 7.31 % of global biodiversity. It is rich in its wild life. There are about 13,000 species of flowering plants & 65,000 species of fauna including fish, birds & mammals in India. India is the only country to have all the five major vertebrates - the tiger, lion, panther, elephant and the rhino.

In recent times, the wildlife in India is in danger due to poaching & trade in animal articles. Threats vary from poaching and illegal trade to dwindling forest cover and habitat thanks to development and population pressures. The ever-increasing demand for wildlife products in the international markets, particularly in South-East Asia, Europe and North America, poses a greater challenge to the Government and conservationists. Several species, including the tiger, rhino and the elephant are being slaughtered to feed the lucrative illegal trade in wildlife.

For *in-situ* conservation of biological diversity, India has developed a protected area network comprising of National Parks, Wildlife Sanctuaries, and Biosphere Reserves. There are 97 existing national parks in India covering an area of 38,223.89 km^2, which is 1.16% of the geographical area of the country (National Wildlife Database, Feb.2008). In addition to the above 74 national parks covering an area of 16,630.08 km^2 are proposed in the Protected Area Network Report. The network of parks will go up 171 after full implementation of the above report. There are also 508 existing wildlife sanctuaries in India covering an area of 118,400.76 km^2, which is 3.60% of the geographical area of the country (National Wildlife Database, Feb. 2008). Another 217 sanctuaries are proposed in the Protected Area Network Report covering an area of 16,669.44 km^2. India has also set up 14 Biosphere Reserves to protect representative ecosystems and to serve as laboratories to evolve alternate models of development. The programme of Biosphere Reserve was initiated under the 'Man & Biosphere' (MAB) programme by UNESCO in 1971. The purpose of the formation of the biosphere reserve is to conserve in situ all forms of life, along with its support system, in its totality, so that it could serve as a referral system for monitoring and evaluating changes in natural ecosystems.

- **The Wildlife Protection Act, 1972 (as amended in 2006)**

To protect the wildlife of the country the parliament of India passed Wild Life (Protection) Act, 1972 (WPA) on the request made by eleven states. The Act was necessitated as some wild animals & birds had become already extinct while some others were on the verge of extinction. Further, the then existing state legislations were felt inadequate in order to protect the wildlife of the country. The Act provides for the establishment of Wildlife Advisory boards & the appointment of wildlife wardens & other staff to implement the Act. In several states, the office of the Chief Wild Life Warden & the Chief Conservator of Forests is united in a single post. The Act prohibits hunting of animals listed in Schedule I, II, III & IV. Under the Act, the state government may declare any area of adequate ecological, faunal, floral, natural or zoological importance as a sanctuary or a national park. In both national parks & sanctuaries, public entry is restricted & the destruction of any wildlife or habitat is prohibited.

Domestic animals like cats, dogs, horses, donkeys or birds like blue rock pigeons etc do not come under the purview of WPA. They fall under the purview of Prevention of Cruelty to Animals Act, and the punishment here has been 1 months or 2 months of imprisonment.

However, the working of 1972 Act was not satisfactory & hence, in 1986 the Act was suitably amended. Under the 1972 Act, trade & commerce in wild animals, animal articles and trophies was permissible within the country. But many traders

smuggled the animal skins, animal articles and trophies to foreign countries for getting huge profit. Hence, it became necessary to prohibit trade in certain specified wild animals. Accordingly, by 1986 Amendment Act it was provided that no one will be allowed to carry on trade in wild animals specified in Schedules I & II of the Act. Further the then existing licenses for internal trade of animals & animal articles were revoked. Further total ban was imposed on trade in Indian ivory.

In 1991 the WPA was further amended. This amendment was made on the basis of recommendations of Indian Wildlife Board & Ministry of Environment & Forest. It was felt that due to continuous poaching & illegal trade in animal articles, the wildlife population in India has rapidly declined. Hence, in 1991 Amendment Act, hunting of all wild animals except vermin was prohibited. But in certain exceptional circumstances such as for protection of life & property, education, research, scientific management & captive breeding, hunting of wild animals was permitted. Further to control the death rate of animals on account of communicable diseases, compulsory immunization was provided for in national parks & sanctuaries. The provisions of national park & sanctuary were extended to territorial waters without seriously affecting the interests of local fishermen. Further, it was provided that without settling the rights of tribal people, no area can be declared as a national park or a sanctuary.

1991 Amendment Act recognized the importance of zoos in protection of wild animals in the country & hence it was provided that the management of zoos will be monitored by the Central Zoo Authority established under the Amendment Act. Further on the basis of Convention on International Trade in Endangered Species of Wild Fauna & Flora (CITES) collection of endangered species of animals & plants had been prohibited. Nevertheless it did not affect the collection of traditionally used plants for bona fide personal use of tribals.

Correspondingly, the parties to CITES were worried about the declining population of African elephants & hence, the import & export of African ivory for commercial purposes was prohibited. On the same lines, the 1991 Amendment Act prohibited ivory trade for protecting Indian elephants. Further, the Act prohibited the collection of snake venom for producing life saving drugs from snakes like Cobra & Russell’s Viper.

The Wildlife (Protection) Act, 1972 was further amended by Wildlife (Protection) Amendment Act, 2002. The said amendment was notified in 2003. The WPA is an important statute that provides a powerful legal framework for protection of wildlife, establishment of protected areas, management of habitats, regulation and control of hunting and trade in parts and products derived from wildlife. The amendment Act was notified in the official gazette on March 31, 2003.

The amended WPA is stronger with several new clauses and important amendments making it the bulwark and guardian of wildlife and its habitat.

Penalties for hunting wild animals have been increased in the amendment to a minimum of three years in order to ensure that killing of endangered animals including the tiger and elephant, now qualify as non-bailable offenses. A new clause empowers enforcement authorities to effect forfeiture of property derived from illegal hunting or trade of wildlife. To ensure better protection of wildlife habitats, illegal encroaches within national parks or wildlife sanctuaries can now be evicted and structures removed; no construction of commercial tourist lodges, hotels and zoos can be allowed without the prior approval of the National Board for Wildlife. The commercial exploitation of forest produce has now been made illegal.

The judiciary too has joined hands towards conservation of forests and wildlife. To assist and effectively monitor the implementation and compliance of several landmark orders, the Supreme Court directed the Union Government to constitute the Central Empowered Committee (CEC). Since then the CEC has gone on to make several important recommendations on critical matters concerning wildlife that include winding up of mining in Kudremukh, complete ban on logging including removal of dead and wind fallen trees in protected areas and ban on regularization of encroached forest land.

However, the ongoing cases of violation, before the amendment of the WPA continue to be governed by the unamended Act. This implies that any violations committed on March 31, 2003 and earlier will also be governed by the unamended Act.

The existing legal provision for wildlife protection, in the form of the WPA, 1972, is amended relatively frequently in order to enable it to cope with the increasing rate of crimes. As mentioned earlier, the Act extends to animals, birds, plants and anything else that has a role in conserving the ecology and environment of the country. It covers animals that are listed according to their status in the wild and prohibits their trade in any form.

The Act has been amended further in 2006 by the Wildlife Protection (Amendment) Act, 2006. Through the amendment, the scope of the Act has widened, and it has become stronger with the incorporation of stricter penal provisions and the constitution of a National Board for Wildlife. Under the Act, convicted offenders are liable to a maximum sentence of three years, extendable to seven, and a fine of Rs.10,000, which is increased to Rs.25,000 if there is a second conviction. Bail terms have been made stringent and the accused can be released

only after the public prosecutor has been heard and even then only if the court is convinced that the accused is blameless.

Wildlife Crime Control Bureau

The 2006 amendment to the Act resulted in the formation of the Wildlife Crime Control Bureau, established in 2007. The bureau was set up on the recommendations of the Tiger Task Force. The Cabinet had approved the constitution of the Tiger and Other Endangered Species Crime Control Bureau (Wildlife Crime Control Bureau) on June 31, 2007, based on the enabling provisions made in the Wild Life (Protection) Act, 1972.

On the cards since 1994, the bureau is meant to collate intelligence relating to wildlife crime, ensure coordination with the State governments and other authorities and develop infrastructure for scientific and professional investigation. It is also meant to assist the State governments in the prosecution. The bureau was set up as a part of a strategy to take universal action in fighting organized crime, strengthening and ensuring the proper implementation of laws at international exit points for preventing smuggling of wildlife and its products. The bureau has the power to investigate wildlife crimes in much the same way as the Narcotics Control Bureau investigates drug-related crimes. The bureau is headed by an Inspector General of Police.

The bureau, a multidisciplinary agency consisting of officials from forests, police and revenue (customs, excise) functions from the Ministry of Environment and Forests. The Bureau has its four regional offices at New Delhi Kolkata, Mumbai and Chennai and three sub regional offices across India. One of its mandates is to work for increased awareness among international tourists to reduce demand for wildlife and its products. As part of the strategy for a coordinated universal action in combating organized crime, strengthening of the enforcement at the international trade exit points would get emphasis as the major demand for the wildlife and its products lies in overseas markets. It is also mandated to advise policy changes, if any, based on the information/data on crime and criminality.

The formation of the bureau indicates that the administration has finally accepted the vital difference between field enforcement, which needs patrolling and observation of the area under the charge of a forest guard, and intelligence gathering regarding poaching at the forest level. In this direction, training of various central enforcement agencies at exit points-CISF, BSF, ITBP, SSB, DRI, *etc* has been being organized at Wild Life Institute of India. Besides this, Training Workshop with National Tiger Conservation Authority and TRAFFIC was also organized for three days at Bandhavagrh from 23rd January 2008. A programme to

educate international tourists to decrease demand for wildlife and its products is being finalized with Ministry of Tourism.

Creation of a bureau was essential to regulate and monitor poaching activities. Poaching is done at the local level for local use, selling game meat in the local market or for supply to small-town traders who sell the goods to a bigger trader. Finally the goods reach a carrier who takes them out of the country. Thus there was the need for a separate and distinct level of control of wildlife crime at the city and international border requiring a completely different set of skills. Officials who have dealt with wildlife crimes are of the opinion that trade should be treated as a police subject and not a forest one as it is a matter of investigation rather than conservation. They also feel that forest officers don't understand investigation and the police don't know forest conservation. Hence the need for a Wildlife Crime Bureau arises.

The First Meeting of the Wildlife Crime Control Bureau took place in Jaipur on Thursday, September 18, 2008, at the state forest department. The meeting was chaired by the Additional Director of the bureau, Ms. Reena Mitra many officials from the directorate of revenue intelligence, state police, the CISF, airport security, the BSF and forest officials were present on the occasion. The Deputy Director of the bureau Mr. Ramesh Pandey was also present.

Various presentations were tabled during the meeting on the weak links and measures that could be taken up to prevent organized poaching and smuggling of animal parts. It was also decided to develop a data base of criminal records of persons who have a past in wildlife crime so as to establish a network of intelligence gathering. Each department that forms a part of the bureau would have a nodal officer and information would be shared for the purpose of control of wildlife crime. The idea is to prevent the commission of crime.

The meeting also decided that the bureau would meet once every three months under the Principle Chief Conservator of Forest and the Chief wild Life warden and once every six months with the National Crime Control Bureau.

The meeting of the Wildlife Crime Control bureau assumed significance specially after renewed efforts in the state for re-establishing the tiger populace at the Sariska Tiger reserve. A pair of tigers was recently translocated to the reserve and three more are to follow soon from the Ranthambore national park.

- **Other Central Legislations and Rules pertaining to Wildlife and their protection**

  - Indian Forest Act, 1927
  - The Wildlife (Transactions And Taxidermy) Rules, 1973
  - Wildlife (Stock Declaration) Rules, 1973
  - Forest Conservation Act, 1980, the rules and amendments thereunder
  - Wildlife (Protection) Licensing (Additional Matters For Consideration) Rules, 1983
  - The Environment Protection Act, 1986 and Rules thereunder.
  - Recognition of Zoo Rules 1992
  - Wildlife (Protection), Rules 1995
  - Wildlife (Specified Plants- Conditions For Possession By Licensee) Rules, 1995
  - Wildlife (Specified Plant Stock Declaration) Central Rules, 1995.
  - The Recognition of Zoo Rules, 1992.
  - The Biological Diversity Act, 2002 and Rules thereunder
  - Guidelines for Appointment of Honorary Wildlife Wardens.

Current National Policies and Plans

- **National Zoo Policy, 1998**

The Central Zoo Authority was created by the Government of India in the year 1992 through an amendment of the Wild Life (Protection) (Amendment 1991) Act, 1972. The main objective was to enforce minimum standards and norms for upkeep and health care of animals in Indian Zoos so that the Zoos of the country come up to a standard where they can complement and strengthen the national efforts in conservation of wild fauna of the country.

The need for *ex-situ* conservation of wild fauna as one of the main objectives for management of Zoos was realized by the Government of India soon after independence and the then Indian Board for Wildlife (now the National Board for Wildlife) made important recommendations in this regard. An Expert Committee on Management of Zoos was set up in November, 1972 and its recommendations were accepted in June, 1973, which still have relevance in the current period. The National Wildlife Action Plan of 1983 again emphasized the role of *ex-situ* conservation in national conservation efforts.

To give proper direction and thrust to the management of Zoos in the country, the National Zoo Policy was framed and adopted by the Government of India in the

year 1998. The main objective of the Zoos under the National Zoo Policy is to complement and strengthen the national efforts in conservation of rich bio-diversity of the country, particularly the wild fauna. This objective can be achieved by supporting the conservation of endangered species by giving species, which have no chance of survival in the wild, a last chance through coordinated breeding under *ex-situ* conditions and raise stocks for rehabilitating them in wild, as and when, it is appropriate and desirable. Conservation education and research for conservation of wildlife are other objectives of Zoos enshrined in the National Zoo Policy.

- **National Wildlife Action Plan 2002-2016**.

The Action Plan replaces the earlier Plan adopted in 1983 and was introduced in response to the need for a change in priorities given increased commercial use of natural resources, continued growth of human and livestock populations, and changes in consumption patterns. The Plan most closely represents an actual policy on protection of wildlife. It focuses on strengthening and enhancing the protected area network, on the conservation of endangered wildlife and their habitats, on controlling trade in wildlife products and on research, education, and training. The Plan endorses two new protected area categories: "conservation reserves," referring to corridors connecting protected areas, and "community reserves," which will allow greater participation of local communities in protected area management through traditional or cultural conservation practices. These new categories of protected areas are likely to bring in corridor areas under protection. The Plan contains various recommendations to address the needs of local communities living outside protected areas and outlines the need for voluntary relocation and rehabilitation of villages within protected areas. The Plan recognizes the need to reduce human-wildlife conflict and emphasizes the establishment of effective compensation mechanisms. It includes the restoration of degraded habitats outside protected areas as a key objective.

The National Wildlife Action Plan (2002-2016) also lays emphasis on the role of Zoos for *ex-situ* breeding of endangered species of wild fauna and their rehabilitation in the wild as per the IUCN guidelines for reintroduction. The Central Zoo Authority has been identified under the Plan, as one of the organizations for developing capabilities in this field.

- **Wildlife Conservation Strategy 2002**

Apart from the various national policies, a Wildlife Conservation Strategy was also adopted by the central government in 2002. With the release of the National Wildlife Action Plan 2002-2016 which has been drawn up taking into account the close linkages between conservation of forest, wildlife and the national food and

water security, the same meeting also witnessed the adoption a resolution on Wildlife Conservation Strategy 2002. The objective of the strategy was basically to call for declaring wildlife and forests as priority, sector "at the national level and earmarking of funds for the purpose.

5. Protected Areas

5.1. Introduction

The term **'protected area'** was not previously defined under the WPA. The definition that existed was the one as provided by the Supreme Court in the case of *Tarun Bharat Singh* v *Union of India*[4] . The court clarified in the case that the expression Protected area "was intended to and does refer to all the areas which have had legal protection against non- forest activities that devastated the environment including poaching, mining, felling of trees etc." The WPA prior to the 2002 amendment provided for three categories of protected areas- The National Parks, the Sanctuaries and the Closed Areas.

However, the 2002 amendment has inserted a new definition of protected areas in the WPA under Section 24 A. a Protected area is now defined as, "protected area means a National Park, a sanctuary, a conservation reserve or a community reserve notified under sections 18, 35, 36A and 36C of the Act".

It is clear that the WPA now provides for four categories of **protected areas**:

- **National Parks** - National parks have higher legal status than sanctuaries. They are by law more strictly protected, allowing virtually no human activity except that which is in the interest of wildlife conservation. Grazing, private tenurial rights, etc. are disallowed in parks. They are habitat oriented protected areas and are set up to conserve the habitat of one or more threatened species. Size of a national park is bigger compared to

[3] 1993 Supp (3) SCC 115

wildlife sanctuaries. Boundary of a National Park is fixed and follows strictly. Any kind of external activity including grazing is not allowed and tourism is permitted only in the Buffer zone.

- **Wildlife Sanctuaries** - Sanctuaries have a lower legal status. They are species oriented protected areas set up to conserve one or more threatened species. Size of a sanctuary is smallest compared to other protected areas (except for the Great Indian Bustard sanctuary). The boundary of a wildlife sanctuary is not fixed and may be altered and limited activity such as regulated grazing, tenure rights, etc. may be allowed at the discretion of the Chief Wildlife Warden. Tourism is also permitted overall the sanctuary.

- **Conservation Reserves** – Conservation reserves are new categories of protected areas introduced after the 2002 amendment to the WPA. They were conceived with the objective of promoting community participation in preservation of wildlife. They are to be managed by a committee, comprising representatives of the public, the Forest Department, non-governmental organizations, scientists, the MLA and the panchayat president.

- **Community Reserves** – Community Reserves were also introduced subsequent to the 2002 amendment to WPA. The idea of developing `community reserves' was to protect wildlife on private or community owned land or trees in a village area. While the `community reserve' deals with the conservation of the wildlife on private or community land, the `conservation reserve' will help to protect birds and animals living in trees or forests close to villages. The `community reserve' is to be managed by land owners with the guidance of Forest Department officials.

The amended WPA does not allow for any commercial exploitation of forest produce in both national parks and wildlife sanctuaries and local communities can collect forest produce only for their bona fide needs. No wild mammal, bird, amphibian, reptile, fish, crustacean, insects, or coelenterates listed in four schedules of the WPA can be hunted either within or outside protected areas. On conviction, the penalty for hunting is imprisonment for a period ranging from a minimum of three to a maximum of seven years with fines not less than 10,000 rupees.

Under the WPA no person can destroy, exploit or remove any wildlife or habitat of any wild animal from a National Park or a Sanctuary. However this can be done only under exceptional circumstances on permit being granted by the Chief Wildlife Warden. Besides, there is prohibition of entry into a National Park and

Sanctuary with weapon, for causing fire and on use of injurious substances. Further in case of National Park entry of livestock for grazing is also strictly prohibited. Subject to the grant of permit by the Chief Wildlife Warden, investigation for study, photography, scientific research, tourism and transaction of lawful business with any person residing in a Sanctuary is all permissible in a Sanctuary. Additionally, the Chief Wildlife Warden is allowed to undertake construction and other activities necessary for the purposes of the Sanctuary and the wildlife therein. These provisions apply to the National Park too.

Community reserves and conservation reserves are two new categories of protected areas that have been included under the WPA. These two categories provide a greater role for local communities, stakeholders and civil society as well as the opportunity to protect many areas of conservation value that cannot be designated under the strict categories wildlife sanctuaries or national parks.

The statute further prohibits the destruction or diversion of wildlife and its habitat by any method unless it is for improvement or better management and this is decided by the state government in consultation the national and state boards for wildlife for parks and sanctuaries respectively. The WPA contains elaborate procedures for dealing with legal rights in proposed protected areas and acquisition of any land or interest under this law is deemed as an acquisition for a public purpose.

Apart from protected area establishment, other important aspects of the WPA include procedures for the appointment of state wildlife authorities and wildlife advisory boards, the regulation of trade in wildlife products and the prevention, detection and punishment of violations of the WPA. The procedure for all complaints filed under the WPA is governed by the Code of Criminal Procedure which is a general procedure common to all criminal trials and which provides for investigation, inquiry and trial of cases by criminal courts of various designations.

5.2. Biosphere Reserves

A biosphere reserve is an international conservation designation given by UNESCO under its Programme on Man and the Biosphere (MAB). For the purpose of setting up biosphere reserves, The World Network of Biosphere Reserves was established at the International Conference on Biosphere Reserves in Seville in 1995. As on 2007, The World Network of Biosphere Reserves was constituted of a collection of all 529 biosphere reserves in 105 different countries.

These are the areas of terrestrial and coastal ecosystems that conserve biodiversity in a sustainable way. These are also known as living laboratories for demonstrating integrated management of land, water and biodiversity. The

objectives of the biosphere reserves are to conserve biodiversity, to facilitate human and economic development and to provide logistic support to the people to undertake research and education activities and information exchange at international level. These are recognized internationally but are nominated by national Government and remain under sovereign jurisdiction of the country where they are located.

Biosphere reserves have highest legal status. They are ecosystem oriented protected area and set up to conserve the ecosystem of one or more threatened species. According to "The Statutory Framework of the World Network of Biosphere Reserves," biosphere reserves are created "to promote and demonstrate a balanced relationship between humans and the biosphere."

The size of a biosphere reserve is largest compared to other protected areas. The boundary is strictly followed in a biosphere reserve. The First biosphere reserve of India was established at Nilgiri in 1986.

A biosphere reserve is basically divided into following zones, namely, the Core Zone, Buffer Zone, Manipulative Zone and Restoration Zone. The Core Zone is a legally protected core area. No human activity is permitted in the core zone and always needs a proper permission. A buffer zone is an area where non-conservation activities are prohibited. The Manupulative Zone and Restoration Zone are the transition areas where approved practices may be permitted.

In India, there are four internationally recognized Biosphere Reserves, whereas there are in total twelve biosphere reserves declared by the Indian Government in India. The four internationally recognized biosphere reserves are**:** Nilgiri, Gulf of Mannar in 2001, Sunderbans in 2001 and Nanda Devi in 2004 by MAB (Man and Biosphere Programme of UNESCO). Besides, Sunderbans is also a National Park and a World Heritage Site. In addition, Ministry of Environment and Forests (MoEF), Government of India has also identified 13 biosphere reserves (Nilgiri, Nanda Devi, Nokrek, Great Nicobar Islands, Gulf of Mannar, Manas, Sunderbans, Simlipal, Dibru-Saikhowa, Dehang-Debang, Panchmarhi, Khangchendzonga and Agasthyamalai) at the national level including the four biosphere reserves recognized by MAB.

- **Biodiversity Hotspot Zones**

In order to identify the areas having rich biodiversity and endemic species (those found only in a particular area and not anywhere else), British ecologist Norman Myers gave the concept of 'biodiversity hotspots' in 1988 and identified 10 such regions in the tropical forests. Later, the concept of hotspots was adopted by

Conservation International (CI) and at present this concept has been extended to 34 such areas present world wide. For an area to be qualified as Hotspot region, it should have at least 1500 species of endemic vascular plants and should have lost about 70% of its original habitat.

In India, three hotspot regions have been recognized. These are: **the Himalayas, Western Ghats (extending up to Sri Lanka) and Indo-Burma region**.

- **The Himalayan Hotspot** has over 10,000 plant species of which 31.6 5 are endemic. These include pines, firs, spruces, rhododendrons and variety of orchids, mosses and ferns. Besides, a number of birds and mammals including vultures, tigers, elephants, rhinos and wild water buffaloes exist in the Himalayas.

- **Western Ghats and Sri Lanka** is one of the richest biodiversity areas with a high rate (52%) of endemism of plants species. A number of unique and rare plants and ferns are present in this hotspot. However, the forests in this region are under tremendous logging pressure. Besides, the region is also home to some of the rare animals like endangered Asian elephant. Unfortunately, there has been excessive human interference in this region resulting in great loss of habitat and biodiversity.

- **Indo-Burma** hotspot region extends from North-east India to Burma and has a rich treasure of biological resources. The region has a remarkable diversity of fresh water turtles and bird species (over 1300 species). A number of dipterocarps, orchids and ginger species are present in this region. However, due to various political and social reasons, the knowledge about the plant diversity of this region is incomplete.

6. International Norms for the Protection of Wildlife

6.1. Introduction

Wildlife has received the attention of the globa community as a resource with international stakes in conservation and sustainable utilisation. India is party to a number of wildlife conventions and treaties and paticipates in international meetings related to a large number of conservation subjects.

There are various International Norms available for wild life protection. Some such Conventions, to which India is a party, are listed below:

1. International Convention for Regulation of Whaling – Signed in 1946

2. Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) - Signed 1973, Ratified 1976

3. Convention on Wetlands of International Importance especially as Waterfowl Habitat, Ramsar – Signed in 1971

4. Convention on Conservation of Migratory Species of Animals, Bonn, 1979

5. Convention on Biological Diversity (CBD) – Signed in 1992, Ratified in 1994

6. International Tropical Timber Agreement, 1994

6.2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is one of the largest conservation agreements in existence. It is an international agreement between governments, drafted as a result of a resolution adopted in 1973 at a meeting of members of the World Conservation Union (IUCN). Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival and it accords varying degrees of protection to more than 30,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs.

At the time when the ideas for CITES were first formed, in the 1960s, international discussion of the regulation of wildlife trade for conservation purposes was something relatively new. However, now there is an increase in the trade of wildlife that poses great threat to their very existence. Annually, international wildlife trade is estimated to be worth billions of dollars and to include hundreds of millions of plant and animal specimens. The trade is diverse, ranging from live animals and plants to a vast array of wildlife products derived from them, including food products, exotic leather goods, wooden musical instruments, timber, tourist curios and medicines. Levels of exploitation of some animal and plant species are high and the trade in them, together with other factors, such as habitat loss, is capable of heavily depleting their populations and even bringing some species close to extinction. Many wildlife species in trade are not endangered, but the existence of an agreement to ensure the sustainability of the trade is important in order to safeguard these resources for the future.

Participation in CITES is voluntary, and countries that have agreed to be bound by the Convention are known as Parties. Although CITES is legally binding on the Parties, it does not take the place of national laws. Rather it provides a framework to be respected by each Party, which has to adopt its own domestic legislation to make sure that CITES is implemented at the national level. Often, domestic legislation is either non-existent (especially in Parties that have not ratified it), or with penalties incommensurate with the gravity of the crime and insufficient deterrents to wildlife traders.

The text of the Convention was concluded at a meeting of representatives of 80 countries in Washington, D.C., United States, on 3 March 1973. It was then open for signature until 31 December, 1974. It entered into force after the 10th ratification by a signatory State, on July 1, 1975. States that signed the Convention become Parties by ratifying, accepting or approving it. By the end of 2003, all signatory States had become Parties. States that were not signatories may become

Parties by acceding to the Convention. As of September 2007, 172 States had become Parties to the Convention.

The CITES works by subjecting international trade in specimens of selected species to certain controls. All import, export, re-export and introduction from the sea of species covered by the Convention has to be authorized through a licensing system. Each Party to the Convention must designate one or more Management Authorities in charge of administering that licensing system and one or more Scientific Authorities to advise them on the effects of trade on the status of the species.

The species covered by CITES are listed in Appendices I, II and III of the Convention, according to the degree of protection they need.

Around 25,000 plant species and 5,000 animal species are covered by the provisions of the Convention. The estimated figure is provided in the following proportions:

1) Appendix I: about 600 animal species and 300 plant species;
2) Appendix II: about 1,400 animal species and 25,000 plant species; and
3) Appendix III: about 270 animal species and 30 plant species.

The CITES Secretariat is administered by UNEP and is located at Geneva, Switzerland. It has a pivotal role, fundamental to the Convention and its functions are laid down in Article XII of the text of the Convention. They include:

- playing a coordinating, advisory and servicing role in the working of the Convention;
- assisting with communication and monitoring the implementation of the Convention to ensure that its provisions are respected;
- arranging meetings of the Conference of the Parties and of the permanent Committees at regular intervals and servicing those meetings (i.e. organizing them, preparing and circulating meeting documents, making necessary arrangements for delegates to attend the meetings, providing advice and support, etc.);
- providing assistance in the fields of legislation, enforcement, science and training;
- undertaking, under agreed programmes, occasional scientific and technical studies into issues affecting the implementation of the Convention;
- making recommendations regarding the implementation of the Convention;
- acting as the repository for the reports, sample permits and other information submitted by the Parties;

- distributing information relevant to several or all Parties, for example, proposals to amend the Appendices, sample permits, information about enforcement problems, national legislation, reference material or news of a new Party;
- issuing new editions of Appendices I, II and III, whenever there is a change, as well as of the Resolutions and Decisions adopted by the Conference of the Parties (COPs) at its meetings, and information to assist identification of species listed in the Appendices; and
- preparing annual reports to the Parties on its own work and on the implementation of the Convention;

Every 3 years the Parties to CITES meet to discuss a variety of issues. This meeting is called a meeting of the Conference of the Parties (COPs)

The CITES to this date has had fourteen meetings of the Conference of Parties (COPs). The Fourteenth meeting was held in The Hague, Netherlands, from June 3 to 15, 2007. The list of COPs has been provided as under:

1. First meeting of the Conference of the Parties
   Bern (Switzerland), 2-6 November 1976

2. Second meeting of the Conference of the Parties
   San José (Costa Rica), 19-30 March 1979

3. Third meeting of the Conference of the Parties
   New Delhi (India), 25 February - 8 March 1981

4. Fourth meeting of the Conference of the Parties
   Gaborone (Botswana), 19-30 April 1983

5. Fifth meeting of the Conference of the Parties
   Buenos Aires (Argentina), 22 April - 3 May 1985

6. Sixth meeting of the Conference of the Parties
   Ottawa (Canada), 12-24 July 1987

7. Seventh meeting of the Conference of the Parties
   Lausanne (Switzerland), 9-20 October 1989

8. Eighth meeting of the Conference of the Parties
   Kyoto (Japan), 2-13 March 1992

9. Ninth meeting of the Conference of the Parties
   Fort Lauderdale (United States of America), 7-18 November 1994

10. Tenth meeting of the Conference of the Parties
    Harare (Zimbabwe), 9-20 June 1997

11. Eleventh meeting of the Conference of the Parties
    Gigiri (Kenya), 10-20 April 2000

12. Twelfth meeting of the Conference of the Parties
    Santiago (Chile), 3-15 November 2002

13. Thirteenth meeting of the Conference of the Parties
    Bangkok (Thailand), 2-14 October 2004

14. Fourteenth meeting of the Conference of the Parties
    The Hague (Netherlands), 3-15 June 2007

15. Fifteenth meeting of the Conference of the Parties
    To be held at Doha (Qatar), 16-28 January 2010

At each COP, CITES Parties discuss proposals to amend the Appendices. Parties vote on each proposal. Two thirds of the Parties that are present and voting must vote in favour of a proposal for it to be accepted. Parties also discuss and come to agreement on a range of Resolutions and Decisions that may relate to, for instance, the interpretation of the Convention, its operation for particular taxa or specimens, or specific trade-related conservation measures. Only Parties (country governments) can vote.

Funding for the activities of the Secretariat and COP meetings comes from a Trust Fund derived from Party contributions. Trust Fund money is not available to Parties to improve implementation or compliance. These activities, and all those outside Secretariat activities (training, species specific programs such as Monitoring the Illegal Killing of Elephants - MIKE) must find external funding, for instance, from NGOs and bilateral aid.

Although the Convention itself does not provide for arbitration or dispute in the case of noncompliance, in practice the CITES functioning has resulted in several strategies to deal with infractions by Parties. The Secretariat, when informed of an infraction by a Party, will notifies all other parties. The Secretariat gives the Party time to respond to the allegations and may also provide technical assistance to prevent further infractions. Other actions (not provided for in the Convention

itself, but derived from subsequent COP 11 resolutions) which may be taken against the offending Party include:

- mandatory confirmation of all permits by the Secretariat;
- suspension of cooperation from the Secretariat;
- a formal warning;
- a visit by the Secretariat to verify capacity;
- recommendations to all Parties to suspend CITES related trade with offending party
- the dictation of corrective measures to be taken by offending Party before Secretariat resumes cooperation/recommend resumption of trade.

Infractions may include negligence with respect to permit issuing, excessive trade, lax enforcement, and failing to produce annual reports.

CITES works by subjecting international trade in specimens of selected species to certain controls. These require that all import, export, re-export and introduction of species covered by the Convention has to be authorized through a permitting system.

Each Party to the Convention must designate one or more Management Authorities in charge of administering the licensing system and one or more Scientific Authorities to make judgements about the effects of trade on the status of the species. Species are proposed for listing at Conferences of the Parties (COPs), the next of which will be held in Qatar in 2009. Species may be proposed for listing by Parties other than range States and may be listed despite objections by range state nations if there is sufficient (2/3 majority) support for the listing. These discussions are usually among the most contentious at COP meetings.

Since CITES came into force, the convention has banned international trade in rhino horn and helped to ensure that rhinos continue to survive in the wild. CITES also banned international trade in ivory in 1989 to combat a massive illegal trade in ivory which caused dramatic declines in elephant populations throughout most of Africa in the 1970s and 1980s. The ban was successful in eliminating some of the major ivory markets, leading to reduced poaching and allowing some populations to recover.

Other measures adopted by CITES have led to improvements in the management and regulation of trade in a myriad of other species such as sturgeon caviar, some species of sharks, seahorses, crocodiles.

- **Outcomes of the Fourteenth meeting of the Conference of the Parties in 2007**

At CoP14 (June 3-15, 2007), held at The Hague, member countries voted on 36 proposals to amend the CITES Appendices with the objective of giving protection to more number of wild species threatened by international trade.

The proposals were made with the view to introduce measures that affect a number of high-profile species such as bobcats, leopards, African elephants, sawfishes, corals and orchids among others. There was also voting for a change in the way CITES operates, including for a proposed "strategic vision" aimed at altering the very purpose of this important wildlife convention.

Some major outcomes of COP 14 are as follows:

1. Elephants – One of the outcomes was the landmark approval of nearly a decade-long suspension of trade in elephant ivory. However, although the general feeling at CITES was that the consensus decision was a victory, certain conservation groups feel that the trade suspension did not come without cost, which was the allowance of huge stockpiles sales. They believe that elephants remain in a precarious state and efforts must be made to prevent the rampant poaching which such stockpile sales and any legal ivory market encourage. In its decision, the Parties accepted, by consensus, a plan to allow sale of current ivory stockpiles from Botswana, Namibia, South Africa, and Zimbabwe, while instituting a moratorium on consideration of further ivory trade proposals from these countries for a period not less than nine years following the sale.

2. Tigers - Another major win at CITES was the fight for the continued survival of tigers in the wild. Previously there was a stark increase in the arena of commercial tiger farming, where thousands of tigers were bred for the trade in their parts under the dubious guise of Traditional Medicine. One decision taken at COP 14 and adopted by all CITES Parties was that "tigers should not be bred for trade in their parts and derivatives."

A proposal by China to limit the text to "*international*" trade was rejected by the Parties 19 in favor, 47 against and 11 abstentions.

3. Whales - With respect to whaling, Japan and Iceland had been making attempts to reopen the international whale meat trade despite the worldwide moratorium on commercial whaling. CITES parties however, made it clear in their rebuke to Japan that the convention may not undermine environmental decisions by other international agreements and would therefore continue to defer to the IWC's ban on whaling.

The Parties rejecting the proposal from Japan to conduct a periodic review of all cetaceans in Appendix I with 26 voted in favour, 54 against, and 13 abstentions. The Parties approved in Committee I, with 59 voted in favour, 21 against and 13 abstentions, a Decision proposed by Australia that no periodic review of any great whale should occur while the IWC moratorium is in place. This decision effectively repeals the controversial decision by the Animals Committee in 2006 to allow Iceland to conduct a review of the central North Atlantic stock of fin whale. Palau attempted to reopen debate on the Australian proposal in plenary on the last day of the meeting, but failed to win the required one-third support with 35 votes in favor, 71 against, and 19 abstentions.

4. Sharks - In Committee I, which is the first phase of the meeting, the Parties rejected proposals to list porbeagle (*Lamna nasus*) (54 in favour, 39 against and 12 abstentions) and spiny dogfish (*Squalus acanthias*) (57 in favour, 26 against, and 10 abstentions) in Appendix II. Germany, on behalf of the EU, moved successfully to reopen debate on the spiny dogfish proposal in plenary on the last day of the meeting, but the proposal was rejected again, this time by secret ballot.

5. Other Marine Proposals - An amended proposal to list sawfishes (*Pristidae*) in Appendix I was accepted, with 67 votes in favour, 30 against, and 7 abstentions. A proposal to list the European eel (*Anguilla anguilla*) in Appendix II was accepted with in 93 in favour, 9 against, and 4 abstentions. A proposal to list red and pink corals (*Corallium* spp.) in Appendix II, annotated with a delayed entry into force for 18 months, was accepted in Committee by a vote of 62 in favour, 28 opposed and 13 abstentions, but was rejected in plenary by secret ballot on the last day of the meeting.

6. Other Species of fauna - The Parties approved by consensus, proposals to include slow lorises (*Nycticebus* spp.), Cuvier's gazelle (*Gazella cuvieri*), slender-horned gazelle (*Gazella leptoceros*), and Guatemalan beaded lizard (*Heloderma horridum charlesbogerti*) in Appendix I, and rejected a proposal to delete bobcat (*Lynx rufus*) from Appendix II with 28 votes in favor, 63 against and 9 abstentions.

7. Timber Proposals - An amended proposal to include brazilwood (*Caesalpinia echinata*) in Appendix II was adopted by consensus. The EU withdrew its proposals for listing Spanish cedar (*Cedrela* spp.) and rosewood *(Dalbergia retusa, Dalbergia granadillo* and *Dalbergia stevensoni*) in Appendix II. In response, the Parties adopted a plan of action to complete knowledge on the conservation status, trade in and sustainable use of *Cedrela odorata* and the three *Dalbergia* species.

8. Proposals Withdrawn - A record number of proposals were withdrawn. In addition to the proposals relating to African elephants, cedar, rosewood and *Dalbergia stevensonii*, Parties withdrew a proposal to list the Dorcas gazelle (*Gazella dorcas*) in Appendix I and proposals to list the Banggai cardinalfish (*Pterapogon kauderni*) and the Brazilian populations of the Caribbean and smoothtail spiny lobsters (*Panulirus argus* and *Panulirus laevicauda*) in Appendix II.

9. Socio-economic issues - The CITES Secretariat, the EU and some Parties supported agenda items that promoted the consideration of livelihoods issues and sustainable use within the CITES processes, Strategic Goals, and implementation. Though socio-economic considerations are important to the broader scheme of conservation and development, giving them a major role in CITES threatens to undermine the basis of science-based decision-making and divert scarce resources to new priorities best handled by other instruments or national governments. Fortunately, the original documents were amended significantly by the Parties, in response to concerns that these documents went too far beyond the scope of the treaty.

6.3. India's compliance with CITES

The international community possesses a powerful tool to control wildlife trade, tjhat is the CITES. For over the years it has used trade sanctions as the cornerstone of a unique compliance system that has evolved through practice and secondary rules. There are various mechanisms of operation of CITES, one of which is through sanctions that are imposed over the participatory countries. The CITES compliance system has evolved largely in isolation from other environmental treaties, yet there are lessons that could be learned by other trade-related agreements that are in the process of developing their mechanisms to address non-compliance. CITES is particularly dependent on a sanctions-based approach because of the lack of funds to support capacity building.

Sanctions are used to back-up technical assistance and can indirectly build capacity to implement the treaty. They can be made applicable through their incorporation in national legislations and policies.

India is a signatory to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that regulates international trade in wildlife and its derivatives as well as India has bilateral arrangements with China and Nepal on combating wildlife crime. CITES was ratified by India on July 20, 1976. It came into force in India on October 18, 1976.

As mentioned earlier, CITES convention and its Appendices are legally binding on the parties. However, a national legislation is required to apply these provisions. This national legislation enacted with a view to implement the provisions of the convention must, at the very least, include:

- Provisions to designate a Management Authority and a Scientific Authority
- Provisions to prohibit trade in specimens that are in violation of the convention
- Provisions to penalize such trade
- Provisions to allow for the confiscation of such specimens that are illegally possessed or traded

India, from time to time, has made amendments in the WPA as well as in various other legislations to make it in tune with this international obligation.

With the objective of preservation and conservation of various species of flora and fauna, the Indian Government has also, from time to time adopted various conservation projects. To promote wildlife awareness among the people, the Indian government has started various natural projects and programs such as Project Tiger, Nature Camps and Jungle Lodges. These projects not only help to preserve our natural heritage, but encourage eco-tourism as well.

Project Tiger was formed in 1972 and launched on the 1st April 1973 at Corbett National Park. It was later on expanded to preserve the tiger population at various other Tiger Reserves in Bandhavgarh, Corbett, Pench, Ranthambhore, Kanha, Bandipur, Panna, Dudhwa, Sunderbans, Manas and Sariska. All these reserves act as Conservation Centers for tigers in India.

Besides, there is the Gir National Park, the only habitat for Asiatic lions in India. The Kaziranga Wildlife Sanctuary is Assam is renowned for protecting the endangered one-horned Rhinoceros. There's also Dachigam National Park, which conserves the Hangul or Kashmiri Stag.

Project Elephant, a centrally sponsored scheme, was launched in February 1992 to provide financial and technical support to major elephant bearing states in India for protection of elephants, their habitats and corridors. The Project, involving 25 Elephant Reserves across the country, is being implemented in 13 States and Union Territories in India, namely, Andhra Pradesh, Arunachal Pradesh, Assam, Jharkhand, Karnataka, Kerala, Meghalaya, Nagaland, Orissa, Tamil Nadu, Uttaranchal, Uttar Pradesh and West Bengal.

In addition, the State/UT Governments have also taken the following measures to protect wild animals:

1. Intensive patrolling in sensitive areas

2. Coordination with other law enforcement agencies.

3. Provision for arms and ammunition, and communication facilities.

4. Conducting nature awareness campaigns for the public.

5. Soliciting cooperation from the local communities in wildlife conservation.

There are also various NGOs working on wildlife conservation in India. They provide voluntary and technical assistance to these state sponsored projects as well as adopt certain conservation projects of their own. Other conservation projects include turtle conservation; alligator conservation; vulture conservation; conservation of medicinal plants, herbs, etc.

7. Wildlife Conservation Efforts in India

As stated above, there are a number of conservation projects taken up in India. Many of these projects are adopted by the central government. This section provides a brief of the centrally adopted and fully operational conservation projects in India.

7.1. Project Tiger

In the beginning of the 1970s, once tiger hunting had officially been banned in India, a tiger count was done across the entire country. This lead to the shocking discovery that only 1,200 specimens of this magnificent animal were left. This jolted the concerned authorities and some serious thought went into devising plans to save the tiger. The result was the launch of "Project Tiger" in 1972 at the Dhikala Forest Rest House in Corbett National Park. The main idea behind the project was to provide safe havens for tigers where they could flourish as a species and hopefully reverse the startling decline in their population. The project was begun in association with and still receives its main funding from the WWF.

Project Tiger was implemented to put the tiger on an assured course of recovery from the brink of extinction. It also aimed at resurrecting the floral and faunal genetic diversity in some of India’s unique and endangered wilderness ecosystem.

Project Tiger Scheme has been under implementation since 1973 as a Centrally Sponsored Scheme of Government of India. It was launched on April 1, 1973 and is believed to be one of the most successful wildlife conservation ventures.

The main objective of Project Tiger is to ensure a viable population of tiger in India for scientific, economic, aesthetic, cultural and ecological values and to preserve for all time, areas of biological importance as a natural heritage for the benefit, education and enjoyment of the people. Main objectives under the scheme include wildlife management, protection measures and site specific ecodevelopment to reduce the dependency of local communities on tiger reserve resources.

Initially, the Project started with 9 tiger reserves, covering an area of 16,339 sq.km., with a population of 268 tigers. At present there are 27 tiger reserves covering an area of about 37,761 sq.km.

Tiger Reserves are constituted on a 'core-buffer' strategy. The core area is kept free of biotic disturbances and forestry operations, where collection of minor forest produce, grazing, human disturbances are not allowed within. However, the buffer zone is managed as a ‘multiple use area’ with twin objectives of providing habitat supplement to the spill over population of wild animals from the core conservation unit, and to provide site specific eco-developmental inputs to surrounding villages for relieving their impact on the core. Except for the National Parks portion if contained within, normally no relocation of villages is visualised in the buffer area, and forestry operations, NTFP collection and other rights and concessions to the local people are permitted in a regulated manner to complement the initiatives in the core unit.

The basic approach of this strategy is:

- Elimination of all forms of human exploitation and disturbance from the core and rationalisation of such activities in the buffer.
- Limitation of the habitat management to repair damage done by man.
- Researching facts about habitat and wild animals and carefully monitoring changes in flora and fauna.

There are several critics of the Project who say that the project has its shortcomings. Though there was an increase the population of these tigers from 1,200 in the 1970s to 3,500 in 1990s. Now the count has dropped again to 1,411 as per 2008 official census.

Many experts had predicted that the tiger would be extinct by the turn of the century as the tiger population is still not in thrilling numbers. Naturalist Valmik

Thapar has said that for several years, Project Tiger officials have inflated India's wild tiger numbers so as to save their jobs. Project Tiger itself is now being threatened by government activities like the newly passed Tribal Rights Act, 2006, which allows tribal population to reside inside designated tiger sanctuaries. Furthermore, all the tigers in Sariska Tiger Reserve have been poached, showing the ineffectiveness of Project Tiger.

Poaching and other illegal activities are still quite rampant and a lot more effort needs to be put into saving this beautiful animal.

7.2. Project Elephant

Project Elephant is a centrally sponsored scheme launched in February 1992 to provide financial and technical support to major elephant bearing States in the country for protection of elephants, their habitats and corridors. It also seeks to address the issues of human-elephant conflict and welfare of domesticated elephants.

The Project is being implemented in 13 States / UTs , viz. Andhra pradesh , Arunachal Pradesh , Assam , Jharkhand , Karnataka , Kerala , Meghalaya , Nagaland , Orissa , Tamil Nadu , Uttranchal , Uttar Pradesh and West Bengal. Main activities of the Project are as follows:

- Ecological restoration of existing natural habitats and migratory routes of elephants;
- Development of scientific and planned management for conservation of elephant habitats and viable population of Wild Asistic elephants in India;
- Promotion of measures for mitigation of man elephant conflict in crucial habitats and moderating pressures of human and domestic stock activities in crucial elephant habitats;
- Strengthning of measures for protection of Wild elephants form poachers and unnatural causes of death;
- Research on Elephant management related issues;
- Public education and awareness programmes;
- Eco-develoment
- Verterinary care

Starting with a modest Plan Outlay of Rs 23 crores in the 8th Plan , it was enhanced to was Rs 60 crores in the 10th Plan .

Elephent Reserves: 25 Elephant Reserves (ERs) extending over about 58,000 sq kmt have been formally notified by various State Governments till now and

consent for establishment of Baitarini ER & South Orissa in Orissa and Ganga-Jamuna (Shiwalik) ER in U.P has been accorded by MOEF. The concerned State Governments are yet to notify these ERs.

First time an exclusive exercise for enumeration of wild elephants in the ERs was done during Feb-May 2005. This exercise also sought to experiment with two sampling methods, viz. Block Sampling; and Line Transact-Dung Count (with Retrospective Method of Calculating Dung Decay Rate). Project Elephant arranged Training of Trainers and also issued detailed guidelines to the CWLWs and the Field Coordinators. Next All India Enumeration of Elephants was carried out in 2007. An ER-specific enumeration will be repeated in 2010.

Project Elephant has been formally implementing MIKE (Monitoring of Illegal Killing of Elephants) programme of CITES in 10 ERs since April 1, 2004. These include Shiwalik (Uttaranchal); Eastern Dooars (West Bengal); Mayurbhanj (Orissa); Ripu-Chirang and Dehing-Patkai (Assam); Garo Hills (Meghalaya); Deomali (Arunchal Pradesh; Wayanad (Kerala), Mysore (Karnataka) and Nilgiri (Tamilnadu).

7.3. Conservation Centers in India

There are a number of conservation centers developed by the government, to maintain the bio diversity in nature and in turn look after the interest of the wild life. Some of these government centers are:

- **Green Foundation Conservation Centre**- spread across 3 acres of dry land at Thally in Tamil Nadu- Karnataka border, this conservation centre in India has been working towards conservation of agricultural bio diversity closely with the farmers.

- **The Wildlife Conservation Society, India**- It focuses on saving the endangered mega fauna in the protected reserves, in an effort to save the bio diversity.

- **Snake Park-Chennai**- This snake park preserves more than 40 varieties of snakes and other animals such as crocodiles, tortoises, chameleons, monitor lizards in their natural habitats. It is an important Indian Conservation centre for the protection of Crocodiles.

- **Crocodile Bank**- 42 kms from Chennai, the crocodile bank at Mamallapuram os another conservation centre in India, for the conservation of the breeding of crocodiles and alligators.

- **The Wildlife Protection Society of India**- Founded in 1994 by Belinda Wright, the award winning wildlife photographer , the WPSI aims to bring tackle the growing wildlife crisis in India. They do so by providing information and support to those fighting against poaching and illegal wildlife trade.

- **The Asian nature Conservation Foundation**- or the **ANCF** is another conservation centre in India, based in Bangalore, dedicated to help prevent the declining natural landscape and biological diversity in India as well as other tropical Asian Countries.

- **'Operation Kachhapa' Conservation Centre**-This is a centre for conservation of Olive Ridley Sea Turtles in Orissa , in the Eastern Coast of India.

Apart from these specific government conservation centers in India, there are a number of non-governmental organizations, like WWF, Greenpeace, etc. working towards conservation of the natural world. Conservation of wildlife is also carried out in many natural parks, sanctuaries and reserves all throughout India.

7.4. Other Efforts

'Project Snow Leopard' is an ambitious project to protect one of the Himalayas' big cats, still in the stages of its planning. It is the Union Environment Ministry's innovative conservation project for the high altitude Himalayan landscape, particularly aimed at saving the rare Snow Leopard and its habitat.

The Environment Ministry has set up a steering committee, including senior officials from the Centre as well as the five States, to give impetus to the Project.

The Project, which is yet to see the light of the day, envisages conserving the elusive and endangered high-altitude cat, of which 200-600 specimens are estimated remaining in the wild in India, as a flagship species to work with communities on conservation of the habitat in the higher ranges of five States – Sikkim, Jammu and Kashmir, Himachal Pradesh, Uttarakhand and Arunachal

Pradesh. The Project is expected to take off as soon as adequate funds are allocated for flagging it off.

Other conservation projects such as Project Rhino (that includes the Indian Rhino Vision 2020), Gir Lion Project, Ganges River Dolphin Project, etc. are highly ambitious State adopted conservation projects.