

## **Endangered species in India**

Some species have been designated endangered by the International Union for Conservation of Nature (IUCN). Endangered species are those that are in danger of extinction or are already extinct. In other words, species are on the verge of extinction. According to the IUCN RED List 2021, a total of 199 species in India are considered severely endangered.

Some animals that are on the verge of extinction in India includes Phayre's Leaf Monkey, Indian Pangolin, Royal Bengal Tiger, Snow Leopard, Gangetic Dolphin. Phayre's Leaf Monkey is known for its monocle look. Considered to be highly endangered for a very long time in Indian wildlife, this specie is mostly found in the semi-evergreen forest and bamboo dominated areas. Indian Pangolin have no teeth, bad eye sight, and bad listening power. They are still the strong animal because of their powerful claw and horny scale body. Quite heavy in their weight, they are mostly found in Corbett, Gir, and Bandhavgarh National Park. Royal Bengal Tiger is one of the most extravagant member of the Big Cat Family. They are extremely beautiful and powerful. In Indian wildlife, due to hunting and forest destruction, the number of this enormous beauty is gradually lower in rates..Snow Leopard are found in mountain ranges of Himalaya; mostly in Himachal Pradesh, Jammu & Kashmir. The animal can only be seen at the time of dawn and dusk. Gangetic Dolphin are found in most densely populated areas, such as Ganges, Brahmaputra, and also in the areas near to Nepal and Bangladesh. They are highly endangered Indian wildlife specie, who are hard to capture in your lenses.

Some plants that are on endangered in india are: Malabar Mahogany, Musli, Red Sandalwood, Assam Catkin Yew and Ebony. Malabar Mahogany is known for its durable wood which has led to a surge in demand and thus is cultivated to add on to the growing consumption of lumber. Musli, also known as *Chlorophytum tuberosum* is a medicinal blooming plant that has been in the endangered plant list for some time now. Sandalwood has always been a highly sought tree. The *Pterocarpus Santalinus* is a

very premium type of sandalwood that has high medicinal properties and healing effects. This substance is further used for skin care as well. *Mentotaxus assamica* or Assam Catkin Yew is found in Arunachal Pradesh and is listed under this category because of the notable low reproduction rate. The original habitat of this plant has gone through severe land transformations, landing it to the endangered flora list. Dark and durable, the *Diospyros celebica*, or Ebony plant, is known for producing high quality primo wood. Just like Mahogany plants, Ebony is high in demand for timber production, landing it on the endangered list.

The Government has taken several steps for protection of endangered species of wild animals in our country. Legal protection has been provided to wild animals against hunting and commercial exploitation under the provisions of the Wild Life (Protection) Act, 1972. The Wild Life (Protection) Act, 1972 has been amended and made more stringent. The Act also provides for forfeiture of any equipment, vehicle or weapon that is used for committing wildlife offence. Protected Areas, viz., National Parks, Sanctuaries, Conservation Reserves and Community Reserves covering important wildlife habitats have been created all over the country to conserve wild animals and their habitats.

The Wild Life (Protection) Amendment Bill, 2021, mends the Wild Life (Protection) Act, 1972 by increasing the species protected under the law. Substituting the definition of 'Tiger and other Endangered Species' to 'Wild Life', this Bill includes flora, fauna and aqua under its protection. The Bill also regulates wild life trade as per the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). There are 50 amendments to the Act proposed in the Bill.

The Ministry of Environment & Forests also provides financial assistance to State Governments for undertaking "Recovery Programmes for saving critically endangered species" as a component of the Centrally Sponsored Scheme of 'Integrated Development of Wildlife Habitats'.

## **Major Endemic species of India**

Species are said to be endemic when they are exclusive to a single location and cannot be found anywhere else on the planet. Kangaroos, for instance, are a native species that can only be found in Australia; they are not found anywhere else in the globe. India is home to a large number of endemic species.

Some major animals endemic to India includes the Asiatic Lion, commonly known as the Indian Lion, is endemic to only the Gir Forest National Park in Gujarat and the areas immediately around it. These animals are considered to be on the verge of extinction. These are two of India's five big cats; the others are the Indian Leopard and the Bengal Tiger. India is home to a total of five large cats. Then we have Sangai deer, also known as brown antlered deer. It is found only in Keibul Lamjao National Park of Manipur. We have Lion Tailed Macaque. This species is found in a Western Ghat of South India. We have Kashmir stag, also known as Hangul and found in the forest of the Dachigam National Park. It is also found in Himachal Pradesh. We have the purple frog, also known as the pig-nosed frog which is found in a Western Ghat. We also have Nilgiri Tahr. This wild sheep species is located in the Nilgiri hill of Western Ghat. It also inhabits the grassland habitat in Kerala and Tamil Nadu. We also have the Lion-Tailed Macaque. Only the Western Ghats of Southern India are known to be home to this one-of-a-kind primate species, making it the world's rarest, most endangered primate.

According to reports One-fourth of all flowering plant species in India are endemic. According to the same report Around 53 per cent of all endemic flowering plants are herbs, 20 per cent are shrubs and 15 per cent are trees. Some major plants species endemic in India includes the Sapria Himalayan. It is a root parasite plant that is reported from Arunachal Pradesh, Meghalaya, Manipur, and Assam. Nepenthes Khasiana, another endemic plant, is a carnivorous plant which is located in the Khasi Hills of Meghalaya. It is a pitcher plant and it is believed that it is the only species of pitcher plant which is found in India.

## **Role of individual in conservation of natural resources**

Natural resources are something that is occurring naturally on Earth. It forms an indispensable part of our lives. It comprises of air, water, sunlight, coal, petroleum, natural gas, fossil fuels, oil, etc. However, they are exploited by humans for economic gain. Natural resources are at depletion because of the overuse. If the resources are not used wisely, it would create an imbalance in the environment. Thus would head us in opposition to an eco-friendly atmosphere. The need for conservation arises from the significance of natural resources. The conservation of natural resources is every individual's responsibility. The environment belongs to every one of us and so all of us have the responsibility to conserve it. Each individual's efforts for conservation go a long way in conservation measures, though there are efforts at national and international levels too.

Energy is one of the major natural resources. And utilizing it properly and efficiently can not only help to preserve it but also a lot of other natural resources. At an individual level, one help conserve it by switching to renewable sources of energy like solar energy. One can use solar heaters for cooking food in sunny day to save LPG. Energy can also be in the from of electricity and that can also be saved very well at individual level. Switching off fans, light whenever they are not in use can be a very useful way to conserve energy. Using energy efficient home appliances can also be a good way to conserve energy. Switching off the appliances whenever they are not in use is very important. One may think that a device that is not functioning will not drain any energy, but this is not the case. Usually devices go to sleep mode when they are not in use in which they do use somewhat less energy, but they still consume some. Installing solar panels is also a good option. One can use solar powered devicees. Even by deleting unnecessary or spam emails can indirectly save energy. According to reports globally, annual spam energy use totals 33 billion kilowatt-hours (kWh).

Water is another one of the most important natural resources. It is one of the most elementary thing used in our daily life. One can easily save this my minizing the

use of it for all domestic purposes. Taps should be closed tightly whenever they are not being used. A lot of water can be saved while cleaning vehicles by using buckets instead of regularly flowing water streams. One must get leaking water pipes and taps fixed as soon as possible. Even a small pin-hole sized leak will lead to the wastage of 640 liters of water in a month. Individuals can setup local rainwater collection systems in their homes. Such systems are already built by a lot of people in water scarce regions like Rajasthan. This collected water can they be used for purposes like cleaning. Water can also be reused whenever possible. One can reuse the soapy water after washing clothes for washing off the courtyards etc.

Soil is another important natural resource. Soil quality is of utmost importance for agriculture. A general individual may not be able to help in its conservation, but individuals like farmers can help a lot. With proper education, farmers can use fertilizers and pesticides in ways that are best suited for the soil. They can also use natural manure for their crops. Also they can use better farming techniques to maintain the soil quality. One such technique can be to grow different crops periodically in a manner that soil is always rich in nutrients. Other than farmers, general individuals can help in saving soil by not building homes in agricultural lands. Individuals living near open places, can grow different types of plants there, like trees, herbs and shrubs.

Forests has a lot of involvement in our ecosystem and its depletion can have severe implications to our habitat. As an individual we can help indirectly in their preservation by minizing the use of forest based products. So individuals can use non timber based products. This is reduce the demand of timber in market and thus will minimize the deforestation. Individuals must not use timber based decoratives.

Thus there are a lot of ways in which one as an individual can help in conservation of natural resources. Resource conservation being the need of the hour, it is essential for us to follow these method as much as we can.

## **Equitable use of resources for sustainable development**

Sustainable development can be defined as an approach to the economic development of a country without compromising with the quality of the environment for future generations. There are two major goals of sustainable development. One is to promote the kind of development that minimises environmental problems. Another is to meet the needs of the existing generation without compromising with the quality of the environment for future generations.

Proper natural resources along with technological advancements are necessary for sustainable development. For sustainable development, one needs to utilize resources in the best possible way. This may involve switching to better resources to perform some tasks. For example, earlier we used coal to produce electricity, which has several negative impacts on the environment. But now we can use solar energy to efficiently produce electricity. Such transfer from one natural resource to another requires technological advancements to support the new natural resource. If we consider the same example of coal to solar energy, we can easily see that merely by changing the resource we won't be able to produce electricity. The infrastructure needs to be changed accordingly.

The natural resources are not distributed evenly around the world. Some countries have abundant amounts of some specific resources, while others may have acute shortages of them. Even though a better and more efficient way may be present to perform some task, but some countries may not be able to perform it due to the lack of required resources. Continuing the example of solar energy, even though using it will lead to more sustainable development. But it might not be a good option for countries that are near polar regions and have months long night. Similarly we know that petrol and diesel based vehicles are not good for the environment and electric vehicles are a better alternative. But electric vehicles need batteries that are usually built with lithium ion based. Now countries with small amounts of lithium resources can have difficulties in using electric vehicles at large scale. There they may face economical problems.

Natural resources are not the only thing that is unevenly distributed around the globe. Some countries are technologically more advanced than others. And thus those countries are capable of utilizing their resources in more sustainable ways than the others. One classic example of this is nuclear energy. We know that nuclear energy is one of the best way to reproduce electricity and acheive complete energy self succificy in sustainable ways. But even though the technology is present, it is not available to all. Only some countries can harness the power of nuclear fuels. And this technology is generally not shared with other countries. Thus these countries that do not have appropriate technology are unable to achieve sustainable development goals.

Uneven distribution of wealth is also a problem for sustainable development. We have already seen that for sustainable development, countries need to use better natural resources and in the best possible ways. To do so, they also need appropriate technology and infrastructure. All of this need money. More developed countries have around 85% of the world wealth. Now if less developed countries wants to purchase resources or technology from another country, then they need to pay first. And due to their poor economical conditions, they won't be able to do so to an extent that is required for sustainable development.

Thus due to unequal distribution of resources, may it be natural resources, technological resources, economical resources etc, less developed countries are not able to attain their sustainable development goals. Had these resources been distributed more equally, then these countries would have been able to achieve those goals in the similar fashion that the more developed countries are doing. So equitable use of resources is very important for sustainable development on global scale.