

# **NATURAL RESOURCES OF UTTARAKHAND: BASICS, ISSUES AND CHALLENGES**

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## **Abstract:**

Natural resources are the substances which are inherent to earth and obtained from nature and utilized to create products and services which are useful for human beings. Our mother nature consist everything that we consider as environment, including living and non living, everything that is around us is a product of nature, and is a result of zillion years of existence. From the beginning the mankind being the supreme species of the nature has been the one which has utilised and availed the most out of natural resources as per their requirements. When humans were small in number there was not much need of resource management that is due to abundance of resources, but living that way for a long time brought a very wrong attitude to the mankind, and lack of responsibility towards the nature and environment got rooted in every generation. But we cannot afford to live that way anymore , the natural resources of the earth are getting short day by day and the population it needs to satisfy is growing tremendously every day, all this is because we do not realise our responsibility towards the nature that gave us everything. Our responsibility is the greatest because of our greater ability to save the earth. Natural resources of the earth including the air, water, land, flora and fauna and especially representative sample of natural ecosystems must be safeguarded for the benefit of present and future generations through careful planning and management as appropriate. As we know rights and duties are two sides of the same coin, the duty to conserve the environment and systematic use of natural resources is imposed on human beings because our actions only decide the fate of this planet and as an individual we have a social responsibility towards other human beings that we do not pollute the environment that they dwell in , and moreover we owe this to our future generation that we provide them a beautiful and safe home to live in and the same can be achieved by resource management , sustainable development, and a serious change is needed in the approach that we have towards environment because man has fundamental right to adequate conditions of life , in an environment of equality that permits a life of dignity and well-being , and bear a responsibility to protect and improve the environment and manage the resources.

## Introduction

Environmental issues are always global as it affects the whole planet and all creatures of the planet are responsible for the degradation of what nature has offered us. But as the whole world is divided into different countries for administrative convenience on the basis of various political setups, boundaries have been created to differentiate and reserve the natural resources for the population of that territory in which they are situated, and likewise the liability to protect the environment and conserve the natural resources of that territory is imposed on that population only. India has been very rich with the natural resources initially but it has badly exhausted them over years and the condition of environment is alarmingly poor. Recently India has been ranked among the bottom five countries on the Environment Performance Index which indicates the seriousness of the situation. In India natural resources are diversely distributed among various states and Uttarakhand, formerly Uttaranchal is one of the richest when it comes to availability of natural resources due to its geographical location as Himalayas are spread almost all over the state. Uttarakhand is basically a mountainous region and it originally was a part of Uttar Pradesh until it was separated from the same through The Uttar Pradesh Reorganisation Act, 2000, which was passed by the parliament of India on August 28, 2000 and the same turned into an Act on November 9, 2000. The Act was passed by then NDA government led by then prime minister late Atal Bihari Vajpayee in order to fulfil their election promise as there was a long term statehood activism present in Uttar Pradesh for creation of a new state on the basis of different geographical condition as the area which was proposed to be separated was hilly region and it required different schemes and policies for fair development and improvement in the economic status. The Uttar Pradesh Reorganisation Act, 2000 was enacted by the parliament under Article 3(a) which empowers the parliament to form new states by law and subsequently the name of the newly formed state Uttaranchal was changed to Uttarakhand through The Uttaranchal (Alteration of Name) Act, 2006 which came into force in January 2007, the same Act was enacted by the parliament under Article 3(e) of the constitution of India which empowers the parliament to alter the name of any state. As most of the part of Uttarakhand is covered by Himalayas, which is known as the youngest mountain range in the world and thus highly rich in wonders of nature, it has availability of glaciers, fertile soil, scenic destinations, pilgrimages, biodiversities, natural herbs and various forest resources. Altogether the state is enriched with natural resources, but the same fact of availability of greater resources has higher probability of misuse of resources, so the nature of responsibility to protect them is quite heavy.

## Natural Resources of Uttarakhand

Uttarakhand has a high variety of topography with snow capes, glaciers, deep canyons, natural streams, lakes, and a few patches of dusty plains in the south and some of the famous peaks of the world are found here which are Nanda Devi (7817 metres), Kamet (7756 metres) and Badrinath (7138 metres). The state is divided into various physiographic zones, the northern

zone is known as Himadri which includes Zaskar and great Himalayas with very high elevations, next to this zone is the lesser Himalayas, also known as Himachal and this zone has two linear ranges which are the Mussoorie and the Nag Tibba, to the south of Himachal the stretch of Shiwalik range is situated. Entire area of Himadri, Himachal and Shiwalik is popularly known as Kumaun Himalayas. Shiwalik range from the southern side merges with a narrow bed of gravel and alluvium known as Bhabhar, which interfaces to the southeast with the marshy terrain known as Tarai, South of the Shiwaliks are found flat floored depressions known as duns, such as Dehradun.

### **A. Forest Resources**

As per India State Forest Report (ISFR) prepared by Forest Survey of India (FSI) the forest cover in the country has been increased by 5188 square kilometre in the last two years, Uttarakhand has contributed marginally in this increase but it has 77.8 million hectares of its total geographical area under forest and tree cover, which is about 23.68 per cent of the total geographical area of the country and it is the only north Indian state to have more than 33 per cent of their geographical area under forest cover. The variation in the landscape has resulted in variety of flora and fauna and thus resources. Forest cover is a deciding factor in the field of natural resources because forest resources majorly contribute to that. Uttarakhand has eight out of sixteen forest types which are moist alpine scrub, sub-alpine forests, Himalayan dry temperate forests, Himalayan moist temperate forests, sub-tropical pine forests, tropical dry deciduous forests, littoral and swamp forests and tropical moist deciduous forests. As the forest area in the state is quite good so it has six national parks, eight wildlife sanctuaries, one biosphere reserve, two UNESCO world heritage sites and two elephant ranges. The rich biodiversity of the state requires sanctuaries and reserves to protect them and serves as a natural habitat, and the status of elephants can be the good indicator of the status of forest because the requirements for food and water for elephants is quite high.

The administration in the state has the responsibility for managing some of the richest forests and biodiversities in India. The various forest products present in the state are such as timber for building or furniture purposes, and only dry dead or deceased are removed with the permission of the forest department and priority is given to the demands of local people who have recorded rights. Resin tapping is one of the most important activities of the forest department as a substantial portion of forest area is covered with chir pine (*Pinus roxburghii*) which contains resin, and it has high industrial application as it is used in making cement varnishes, paints, sealing wax, adhesives, inks, lubricating compounds, disinfectants etc. The forest dwellers and the rural population of the state is very much dependant on the forests for its energy supplies in the form of fuel wood, fodder for livestock. As we know the state is also a storehouse of biodiversity and it has various species of trees because it has extensive forest area, and it has wealth of medicinal and aromatic plants as it has over 4000 species of flowers which has

medicinal value. The fertile soil and suitable climate of the region provides perfect conditions for cultivation of fruit crops, vegetables, herbs, flowers etc. The lush green forests of the region provide natural habitat to a number of wildlife, some of them are rare and endangered such as musk deer, ghorals, tigers, snow leopards, monal, various butterflies etc.

## **B. Drainage**

The presence of Himalayas provides the state with gigantic glaciers which serve as source of some of the significant river bodies of India, and these glaciers not only provide perennial rivers with fresh water for drinking and irrigation, but are also major attraction for tourists. The state is drained with several rivers due to presence of various glaciers and some of them are such as Gangotri glacier which is the source of river Ganga, that is the longest river of the country and it has very high religious value in Hinduism and Champasar glacier which is the source of river Yamuna that is also worshipped as a deity in Hinduism. There are other rivers and tributaries too which marks the hydropower potential of the state and that are Alaknanda, Bhagirathi, Ramganga, Kali, Tons, Pindar, Kosi, Mandakini, etc, many recreational and energy creating activities are carried out on these rivers which proves their economic value. The banks of the river contain humus which maintains the fertility of the soil, therefore the substantial portion of land in the state is very fertile resulting in good agricultural produce wheat, rice, various kinds of millets, fruit crops, vegetables etc.

## **C. Recreation**

The versatile topography of the region filled with magnificent mountains, beautiful and one of the highest peaks of the country, lush green forests with rare wildlife and scenic beauty, fresh and pristine rivers with filled with serenity, which are also famous for water sports, Rishikesh is considered to top the list in the country in case of water sports and other adventurous activities such as riverside camping, paragliding, bunjee jumping, cliff climbing, rafting, etc are significant source of recreation. Uttarakhand Himalayas have various beautiful holiday destinations like Mussoorie, Nainital, Auli, Rishikesh, mukteshwar, chakrata, Lansdowne, kanatal, kausani, munsiyari and Dehradun, which strongly appeals to the nature lovers. There are certain most adventurous and beautiful treks in the state which represent unadulterated beauty of nature, such as Kedartal, Kedarkantha, Chanshal, Harkidoon, Dayara Bugyal, Deorital, Chopta, Rupin Pass, Bali Pass, Auden's Col, Satopanth lake, Valley of Flowers, Brahmatal, Kalindi Khal, etc. All these geographical features proves the aesthetic value of the state and generate revenue for the state and it also provides employment to the locals.

## D. Pilgrimages

Uttarakhand is also known as 'Devbhoomi' which means land of Gods, a major portion of the state revenue is generated by the Hindu pilgrimages present in the state that attract various followers of the religion, and it also provides an opportunity of employment to the natives of the state as many of them are engaged in the hospitality industry, and thus earning from their hometowns without migrating to big cities. Very important pilgrimages of Hinduism which are also known as Char Dham which are , Gangotri, Yamunotri, Kedarnath, Badrinath, are located in the state, that brings various development plans to the state as recently the Char Dham Project of central government has been initiated which aims to improve and broaden the highways that leads to the Char Dhams. Other than these there are other holy places such as Haridwar, Rishikesh, Jageshwar, Devprayag, Gaumukh, Hemkund sahib, Gaumukh, etc.

## E. Resource and Power

Uttarakhand is not much rich when it comes to minerals that is the reason behind slow industrialization in the state, but there is availability of silica and limestone and some reserves of gypsum, magnesite, phosphorite, and bauxite. The progress of the state is not hampered due to lack of minerals because the nature has bestowed it with other resources such as many perennial rivers flowing with immense force in the lap of nature and the state is rich with water resources, which provide high hydroelectric potential and many mini hydroelectric dams have been built on these rivers , and water is stored to produce electricity for irrigation, industrial application, household consumption, aquaculture and navigability, and the state is successful in supplying energy not only to itself but also to the neighbouring states. The Tehri Dam , built on Bhagirathi river is the tallest dam in India and fourth highest in the world, there are other hydroelectric projects situated in the state such as, Baigul Dam, Baur Dam, Bhimtal Dam, Dhauliganga Dam, Dhora Dam, Haripura Dam, Ichari Dam, Maneri Dam, Nanak Sagar Dam, Srinagar Hydro Electric Projects, etc.

## Issues and Challenges faced while Protecting Natural Resources in Uttarakhand

It is a well known saying that with great power comes great responsibility, and it is true in the case of Uttarakhand which is gifted with abundance of natural resources, but such wealth has to be managed with love and care. Uttarakhand has been dealing with serious natural calamities as most of the total geographical area of the state is covered by Himalayas and the Himalaya is one of the youngest mountain ranges in the world and so it is prone to earthquakes, and other catastrophes such as avalanche, cloud bursting, mass wasting etc. These are regarded as act of god but most of them are a result of long term human intervention, such as deforestation, and it puts flora and fauna of the forest in the danger of extinction. There has been much of forest diversion in the state since its formation in 2000, for development projects. Forest diversion has

been caused in the state for rehabilitation purposes, hydel projects, roads and transmission lines. The forest ecosystem needs to be protected for conservation of natural resources that comes with it, such as water resource, agriculture biodiversity, environment, climate, and human health and besides it has an impact on the livelihood of the communities dependent on the forests.

Some deeds of humans have affected the nature in ways that are unexpected, illegal mining carried out by lawbreakers not even violate the law but also is a attack on wealth of nature, because such mining is carried out in places in which such activities are prohibited due to sensitive ecological conditions. The establishment of hydroelectric projects is done with a view to move towards development by production of energy, but the construction of the same cause felling of trees, and the isolated paradises of nature are disturbed and the natural habitat of several wildlife is destroyed, and at the same time a potential threat of a disaster that the huge water tank in which water is stored might break, invites mass destruction. The state very proudly holds the title of being the origin place of holy rivers such as Ganga and Yamuna, but everyone is aware of the pollution that Ganga is facing, and the state has not done anything substantial in order to prevent the same. The natural habitat of the wild animals have been destroyed whether for development purposes or for satisfying greed of ungrateful human beings has given birth to serious problem of man-wildlife conflict. The development activities in the state is not uniform at all which leaves the rural areas without facilities and luxuries that one get in the urban areas, and this compels the rural population to leave their native places and settle in urban areas and urbanisation has been increased to a level that the state is beginning to face the problems known to have present only in big cities.

## **Measures to Protect the Natural Resources**

The forest dwelling communities have in the past always made efforts to preserve the dense stretches of forest, because the same is most valuable to them as their livelihood depends on it, they collect fuel wood from the forest for cooking and heating purposes, the forest provide fodder for their livestock, leaf litter act as a source of manure. Having regard to their dependency forest dwellers seem to be the greatest well wishers of forest and at the same time the traditional knowledge that they hold can be proved as useful for preservation of forest or better implementation of resources. The same is witnessed by the world at the onset of the famous Chipko Movement which was a social and ecological non violent movement started by villagers of a village named Mandal in the upper Alaknanda valley in Uttar Pradesh in 1973, the movement was an organised resistance to the deforestation that was about to take place, the villagers hugged the trees and prevented them from cutting by the hands contractor. This movement inspired other socio ecological activities in the region, so it proves that cooperation and participation of the units of society makes a difference, and hence is vital. Legal protection is also available with a view to protect natural resources which are as follows;

1. A new provision through Indian Forest (Uttaranchal Amendment) Act, 2002 was added in the original legislation that is the Indian Forest Act, 1927.
2. The Wildlife (Protection) Act, 1972
  - a) The Wildlife (Protection) Amendment Act, 2002
  - b) The Wildlife (Protection) Amendment Act, 2006
  - c) The Wildlife (Protection) Rules, 1995
  - d) National Board for Wildlife Rules, 2003
  - e) Recognition of Zoo Rules, 2009
  - f) The Declaration of Wildlife Stock Rules, 2003
  - g) The Wildlife (Specified Plant Stock Declaration) Central Rules, 1995
  - h) The Wildlife (Specified Plants- Conditions for Possession by Licensee) Rules, 1995
  - i) The Wildlife (Transaction and Taxidermy) Rules, 1973
  - j) Wildlife (Specified Plants- Conditions for Possession by Licence) Rules, 1995
3. Forest Conservation Act, 1980
  - a) Forest (Conservation) Amendment Rules, 2017
  - b) Forest (Conservation) Amendment Rules, 2014
  - c) Forest (Conservation) Second Amendment Rules, 2014
4. The Biological Diversity Act, 2002
  - a) Biological Diversity Rules, 2004
5. Forest Rights Act, 2006
  - a) Forest Rights Act, 2012
6. The compensatory Afforestation Fund Act, 2016
7. Environment Protection Act, 1986

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